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ON

THE CEREBRAL AND OCULAR COMPLICATIONS OF ANÆMIA AND THE PROBABLE RELATIONSHIP OF THESE TO THROMBOSIS.

Delivered before the Medico-Chirurgical Society of Glasgow on March 6th, 1908,

BY C. O. HAWTHORNE, M.D. GLASG., M.R.C.P. LOND.,

EXAMINER IN MEDICINE AND CLINICAL MEDICINE, UNIVERSITY OF GLASGOW; PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL AND THE CENTRAL LONDON OPHTHALMIC HOSPITAL, ETC.

MR. PRESIDENT AND GENTLEMEN,—I have the honour to offer to the Society some observations on the cerebral and ocular complications which occur as occasional events in the clinical histories of anæmic women, and I propose to maintain, subject to your better judgment, that the interpretation of these events is to be found in the intravascular formation of blood clot. That among the special characters which pertain to the anæmic state there must be included an undue tendency to blood coagulation is generally admitted. At least, this is true so long as the blood is contained within the blood-vessels. When withdrawn from the vessels it would appear that the opposite condition obtains and that clotting is both delayed and incomplete. Upon what exactly this difference depends it may be difficult to say, but the fact certainly suggests that intravascular coagulation in anæmia is dependent less on some particular quality of the blood than on an abnormal state of the circulation; and seeing that such clotting is far more frequent in venous than in arterial channels, and that it is mainly confined to situations where, for anatomical reasons, the movement of the blood is comparatively slow, the suggestion may be accepted that an important or determining factor in the thromboses of anæmia is a delayed or sluggish rate of blood-flow. There are, however, quite a number of rival theoretical explanations of the occasional occurrence of thrombosis in anæmic patients, though none of them would appear to have secured anything like unanimous acceptance. In connexion with this communication it is not necessary that these explanations should be discussed; nor is it necessary to inquire why, though thrombosis is in exceptional instances a prominent feature in anæmia, the enormous majority of the cases of this condition give no clinical evidence of any such tendency. For the most part, indeed, the disease, at least as seen in the shape or fashion of chlorosis, pursues a course so uniform and so undisturbed that even a considerable clinical experience may fail to secure a personal introduction to any development which owes its existence to thrombotic or other exceptional events. Yet it is beyond dispute that serious and even fatal complications sometimes occur in anæmic women, and it is not less certain that the explanation of at least some of these is to be found in intravascular clot formation. Hence, whatever be the exact pathological interpretation of this event or of its restriction to a relatively small number of patients, it is necessary to accept thrombosis as an occasional accident in the course of anæmia and to be prepared, both as an exercise in diagnosis and as a practical responsibility in regard to treatment, to deal with the situations thus created. One of the objects of this communication is to suggest that not only certain acute and serious complications but also a number of comparatively minor disturbances occasionally observed in anæmic women owe their origin to intravascular blood-clotting. Such disturbances are, perhaps, more frequent than is generally allowed, and if the proposition that they are due to thrombosis is established they become of considerable clinical importance. For they then appear as warnings or danger signals of the possibility, or even of the probability, of clot formation on a large scale or in particularly dangerous situations, and they thus claim the special therapeutic measures by which results so disastrous may be averted.

In short, the argument here to be presented will be that in thrombosis may be found an explanation not only of various grave, urgent, and well-recognised complications of the anæmic state, but also of certain relatively minor disturbances which appear as occasional departures from the usual course of anæmia as this exists in its simpler and less serious types.

Probably the most frequent and obvious exhibition of thrombosis in anæmia is met with in the large veins of the lower limbs. The symptoms include pain, tenderness, and œdema, and there may or may not be febrile temperatures. The thrombosis may extend from the femoral to the iliac veins, and even to the inferior vena cava; and in occasional instances it would appear that the process has been limited to these larger channels. It is rare for the veins of the upper limbs to be involved, but they are not wholly exempt; and the same is true of the large veins of the neck and chest. Of course, in all such cases there is a risk of pulmonary embolism, and the whole of the facts in this connexion have been repeatedly verified by post-mortem examination. Apart from embolism, however, the prognosis in anæmic venous thrombosis is far from gloomy, and it is of interest to note that the circulation in the obstructed veins may be completely restored. This is shown, not only by the disappearance of dropsy, but also by the recession of a collateral circulation, which, as a compensatory process, may have become established in superficial venous channels. Hence it must be accepted—and the fact is important in connexion with the argument here to be advanced—that an obstructing clot formed in a vein in association with anæmia may, presumably by absorption or organisation, be so completely removed as to cease to exercise any disturbing effect on the normal flow and movement of the circulation. Such a satisfactory issue has been observed even when the thrombotic process has been so widely spread as to affect the majority of the large veins both of the trunk and limbs.

The next situation to be recalled in connexion with the occurrence of anæmic thrombosis is the intracranial veins and sinuses. Every now and then there is recorded in the medical journals the sudden development of acute cerebral symptoms in a young woman who, save for the existence of anæmia, had previously been regarded as entirely free from evidences of organic disease. The symptoms include severe headache, vomiting, pain in the neck, retraction of the head, stupor, delirium, various paralyses, and sometimes double optic neuritis, and in not a few of the cases there has been a fatal issue. In view of these symptoms the diagnosis of intracranial tumour, or when, as is sometimes the case, there are febrile temperatures, of meningitis, can hardly excite surprise. Yet there can be no doubt that most, if not all, of these cases are examples of venous thrombosis within the skull. This position is fully justified by the fact that in not a few instances post-mortem examination has demonstrated the presence of thrombosis in the intracranial veins and sinuses, and has at the same time failed to detect any other lesion capable of explaining either the symptoms or the fatal issue. There are other records in which, with similar symptoms, recovery has followed, and here the diagnosis of intracranial thrombosis has sometimes been supported by the development of thromboses in other situations, as, for example, in the jugular or femoral veins.

Upon this order of cases two observations may be offered. The first is, that as in thrombosis affecting the veins of the limbs both the obstructing clot and the consequences which attend such obstruction may, in a clinical sense, entirely disappear, the fact of complete recovery from an acute cerebral attack cannot be successfully quoted against a diagnosis of intracranial thrombosis as the cause of such an attack. If the circulation may be restored after thrombosis of, say, the femoral vein, a similar result may surely follow thrombosis of the cerebral veins and sinuses. Thus, while widespread clot formation in this latter situation may perchance produce a fatal result, a less extensive thrombosis may well be attended by clinical disturbances from which a complete recovery is possible. Hence recovery, whether from a group of symptoms or perchance from a single symptom of manifestly cerebral origin, is entirely consistent with a diagnosis of thrombosis affecting the intracranial veins and sinuses.

The second remark submitted in connexion with severe or fatal cerebral attacks occurring in anæmic women is that such cases may include among their symptoms the presence

of double optic neuritis. If, therefore, these cases are due to thrombosis in the venous channels of the skull—and escape from this conclusion seems impossible—it follows that such thrombosis is an efficient cause of double optic neuritis. It is true that in some of the cases to which reference is now made optic neuritis has not been present. But these negative experiences cannot invalidate the definite and positive observations in which optic neuritis, existing together with other cerebral symptoms, has been found to have no pathological explanation other than intracranial thrombosis. The position finds an exact parallel in intracranial tumour. In some cases of tumour double optic neuritis is a prominent feature; in others the optic discs are normal. No one will use this latter fact as an argument to contest the proposition that intracranial tumour is competent as a cause of double optic neuritis. And the same conclusion must be applied to intracranial venous thrombosis. Among its possible effects, therefore, must be accepted the development of double optic neuritis.

It is hardly necessary to argue that another consequence may be a limited paralysis—say, for example, of one or other of the ocular muscles. If hemiplegia may be due to intracranial venous thrombosis—and this is beyond dispute—an ocular paralysis may well own a similar explanation, and, indeed, there are many cases in which this association has been clearly established. Therefore it may be affirmed, (1) that intracranial sinus and venous thromboses are the cause of the more or less severe cerebral attacks which occasionally complicate the course of chlorosis; and (2) that such thromboses may include among their consequences both double optic neuritis and ocular or other limited palsies.

With these propositions admitted, attention may be directed to the following summarised case-record.[1]

A girl, aged 17 years, manifestly the subject of chlorosis, came to hospital complaining of double vision. Examination showed that the diplopia was due to paralysis of the right external rectus muscle, and that each optic disc was swollen and its edges concealed by exudation; there was also some retinitis. There was no albuminuria and no evidences, other than the above, of organic disease were present. In the course of three months the patient had made a complete recovery.

Here, then, is a patient whose illness conforms strictly to the usual course of chlorosis, except for the fact that she has double optic neuritis and an ocular paralysis. These two events, if the argument already advanced is sound, may certainly be accounted for by intracranial thrombosis, to which, from her anæmic condition, the patient is undoubtedly liable. An alternative explanation is hard to suggest and in view of all these circumstances the diagnosis of intracranial thrombosis may reasonably be held to be probable or even inevitable. Take a second case-record.[2]

A patient, aged 22 years, was admitted to hospital on account of severe headache, breathlessness, double vision, and failing sight. She was found to be the subject of chlorosis, of marked double optic neuritis with retinitis, and of paralysis of the left external rectus muscle. In addition, the knee-jerk could not be obtained on either side. The patient ultimately made a complete recovery, though the return of the knee-jerks was delayed for many months.

Here, again, the argument in reference to the cause of the optic neuritis and ocular paralysis may be repeated. Thrombosis will explain these facts and it will also, presumably, explain the severe headache. Possibly the loss of the knee-jerks may not so readily accommodate itself to the diagnosis of intracranial thrombosis, but even here it may be remembered that certain intracranial tumours and also some forms of meningitis, cause a similar loss. Further, in some of the more serious cases of anæmic thrombosis, as proved by necropsy, distinct disturbance of the tendon jerks has been observed, though this has perhaps been rather in the direction of excess than defect. Altogether there seems abundant justification for the claim that the above case is a further example of double optic neuritis and an ocular paralysis occurring in a patient free from evidences of disease other than anæmia, and that these two symptoms must find in intracranial thrombosis their clinical and pathological explanation. Hence it would seem not only that double optic neuritis and an ocular paralysis may be numbered among the clinical events possibly attendant upon intracranial thrombosis, but also that they may appear as the only evidences of this condition. This conclusion brings such case-records as the two just quoted into a natural relationship with the more extreme examples of cerebral disturbance to which reference has already been made and in a certain number of which intracranial thrombosis has been demonstrated on necropsy. The difference between the two groups, it is suggested, is merely one of degree, and both groups own common cause in the shape of thrombosis affecting the cerebral veins and sinuses.

This position is further strengthened by the fact that experiences intermediate between the two extremes are by no means wanting. There are well-authenticated cases of anæmia in which the patients have been attacked more or less suddenly by severe headache, pains in the neck, and vomiting, together with optic neuritis and ocular paralysis. It is common to suggest that the intracranial condition responsible for these symptoms is a localised and transient meningitis, or an œdema of the brain, though positive evidence in support of either of these views is difficult to find. On the other hand, thrombosis will cover all the facts, and, if allowed, will permit the construction of a graded series of cases, occurring in anæmic patients, characterised by more or less severe evidences of cerebral disturbance, and finding in intracranial blood-clotting a common bond of interpretation. At one extreme are fatal cases with such symptoms as coma, delirium, various paralyses, and, sometimes, optic neuritis, and proved by necropsy to be dependent on intracranial thrombosis; next come examples of less severe but still considerable cerebral disturbances, including optic neuritis, and having a favourable termination, the diagnosis of intracranial thrombosis being confirmed by the occurrence of thrombosis in the jugular, femoral, or other veins; succeeding these may be placed cases of unusually violent headache and vomiting, with optic neuritis and an ocular paralysis; and after these fall those cases of anæmia in which optic neuritis and an ocular paralysis are the sole unusual events. The earlier members of this series are demonstrably dependent on thrombosis, whilst, as has already been argued, the cases in the last group readily adapt themselves to the same explanation. To detach the intermediate members of the series from the diagnosis of thrombosis is surely a somewhat arbitrary and unnatural proceeding, more especially when the alternative explanation suggested cannot possibly be more than a mere surmise. Hence the claim may be pressed, that in all the groups above presented as examples of more or less severe cerebral disturbances complicating anæmia there is one and the same underlying pathological condition—namely, thrombus formation in the intracranial veins or sinuses.

The question now arises whether the series of cases to be explained in this fashion can be carried a stage further. If optic neuritis and an ocular paralysis appearing together in a case of anæmia are to be attributed to intracranial thrombosis, is it not probable that when, under similar conditions, either exists alone, thrombosis is again the responsible cause? Thrombosis is competent to cause each of these events; it is also a recognised complication of the anæmic state; further, it may be questioned whether any more satisfactory, or indeed any equally satisfactory, explanation can be advanced. Hence thrombosis has a fair claim for recognition as the cause both of optic neuritis and of ocular paralysis when one or other of these symptoms appears as the sole unusual departure from the ordinary clinical course of simple anæmia. Ocular paralysis, it may be admitted, is only very occasionally in this position. Double optic neuritis, on the other hand, is a well-recognised complication of anæmia and its occurrence has given rise to a good deal of speculation. Here it is presented—and the same may be said of an ocular paralysis—as the simplest clinical expression of an intracranial thrombosis, and the claim is made that an examination of the series of cases in which cerebral events complicate anæmia affords a presumptive proof of the correctness and adequacy of this proposition.

An attempt may now be made to find support for the argument that optic neuritis in anæmia is probably due to intracranial thrombosis by an examination of certain other conditions in which, without any very obvious explanation, optic neuritis occasionally appears. One of these is the acute anæmia following a free hæmorrhage, as from the stomach, intestine, or uterus. Standing alone, such cases have a very

[1] Reported in detail in Glasgow Hospital Reports, vol. ii., p. 142.
[2] See article by Mr. Ernest Clarke and Dr. Hawthorne, THE LANCET, April 30th, 1904, p. 1198.

mysterious aspect. It will, however, be allowed that the condition of anæmia established by hæmorrhage is one in which thrombosis may readily occur, as, indeed, is occasionally demonstrated by clot formation in the veins of the trunk or limbs after considerable loss of blood attending surgical operations. Hence it is not impossible—not even improbable—that free bleeding from a mucous surface may be followed by intracranial thrombosis, and this may be advanced as the cause of the optic neuritis in the cases now under consideration. It is at least suggestive that optic neuritis sometimes occurs in circumstances in which intracranial thrombosis is certainly a possibility, and where an explanation of the neuritis other than thrombosis is not easily imagined. Thus the occasional occurrence of optic neuritis in the acute anæmia following free hæmorrhages from mucous surfaces may be quoted in support of the doctrine that the optic neuritis sometimes seen in chlorosis is dependent on intracranial thrombosis.

Another condition in which optic neuritis may appear without any very manifest explanation is suppurative disease of the middle ear. In some of these cases the neuritis is associated with an ocular paralysis, and in others an ocular paralysis exists without any attendant optic neuritis. That is, purulent disease of the middle ear may present ocular complications identical with those which are occasionally found in simple anæmia—namely, optic neuritis and ocular paralysis—and these two events may be associated, or either of them may exist apart from the other. So far as optic neuritis is concerned the suggestion has been made that this may complicate tympanic disease altogether apart from intracranial complications. Obviously this can only mean apart from intracranial complications producing manifest cerebral symptoms, and the suggestion by no means guarantees the absence of sinus thrombosis, to which purulent otitis media is notoriously liable. For the most part, however, an optic neuritis, and perhaps still more an ocular paralysis, developing in the course of suppurative disease of the middle ear, means, without question, some more or less serious development within the skull. This development may be abscess, meningitis, or sinus thrombosis, and to judge from post-mortem records it would appear that of the three it is thrombosis which most frequently gives rise to optic neuritis.

Further, on more than one occasion it has happened that removal of clot from the lateral sinus has been followed by disappearance of an existing optic neuritis, and although in those cases where the patient has recovered it is impossible absolutely to exclude meningitis, the absence of evidences of this condition has repeatedly been noted during the operation, and in some of the fatal cases necropsy has demonstrated that meningitis was not present, and that sinus thrombosis, perhaps with more or less œdema of the brain, was the only abnormal intracranial condition that could be detected. Still more, it has on several occasions been found that optic neuritis—and sometimes, too, an ocular paralysis—has existed in middle-ear disease quite apart from any other evidence of cerebral disturbance and yet has disappeared, either without operation or after operative measures restricted to the mastoid and tympanum and not involving the cranial cavity. Obviously in these cases there cannot have been a cerebral abscess, and meningitis is improbable or at least is less probable than thrombosis. Among the recognised possibilities of the situation, therefore, there remains only thrombosis, and this, as shown in the records already quoted, is fully competent to explain the ocular conditions to which attention is now directed. In short, both optic neuritis and ocular paralysis may complicate middle-ear disease, and these complications may be explained by intracranial thrombosis, to which such disease may most certainly give rise. In certain fatal cases no intracranial condition competent to explain these events other than thrombosis has been discovered. Is it not, therefore, in the highest degree probable that when either optic neuritis or an ocular paralysis occurs as the single unusual event in the course of purulent disease of the middle ear that sinus or venous thrombosis is the responsible cause? And if this is true of middle-ear disease, is not a similar conclusion inevitable in reference to anæmia? In both diseases thrombosis is a possibility; in both such thrombosis occasionally produces severe cerebral disturbances which may include either optic neuritis or an ocular paralysis; and in both each of these last-mentioned facts may exist as the sole unusual event. To find, apart from thrombosis, an element common to the two diseases and able to account for optic neuritis or an ocular paralysis existing as an isolated fact is a task not easily accomplished, and it may therefore be urged that there is at least a strong presumption that intracranial thrombosis is in each instance the correct explanation.

Here, then, are three conditions, namely, acute anæmia, middle-ear disease, and chlorosis, in each of which optic neuritis, apart from other complications, occasionally makes its appearance. In each there is a possibility of intracranial thrombosis, and this must be allowed as at least a possible cause of the neuritis. To suggest some other cause, which is at the same time common to the three diseases now in question, is a demand not readily satisfied. Hence it may be claimed that the study of the clinical history of acute anæmia and of purulent disease of the middle ear adds force to the contention that the optic neuritis sometimes seen in anæmic women is dependent on the occurrence of thrombosis in the veins and sinuses within the cavity of the skull.

From all these facts it might perhaps be concluded that the suggestion of intracranial thrombosis as the cause of the optic neuritis of anæmia is so strongly supported that it needs must command universal assent. This, however, is far from being the case. On the contrary, the proposal excites both incredulity and the opposition of rival interpretations. At the outset criticism applies to it this censure—that as there is no known or conceivable link by which thrombosis as a cause can be connected with optic neuritis as a consequence, the suggestion that the one is the cause of the other is not tenable. To this it may be answered that failure to provide an exact explanation of the mechanism uniting two associated events cannot be successfully pleaded against the proposition that one of these is the cause of the other provided there are, otherwise, valid reasons which render such a relationship probable. Were such a canon of criticism enforced it would, to quote but a single illustration, compel a refusal to accept intracranial tumour as a cause of optic neuritis, for the pathway leading from the one to the other is far from being apparent. Yet, while claiming the protection of this general proposition, it may be advisable to attempt to find some apt and suggestive reasons on which a belief in the capacity of thrombosis to produce such consequences as optic neuritis and ocular paralysis may be reasonably based. Regarding the latter there can be no difficulty. Indeed, it is universally recognised that thrombosis in certain of the sinuses at the base of the skull does, as a matter of experience, and presumably by pressure on the trunks of the cranial nerves, cause paralysis of the muscles of the eyeballs. Perhaps the most obvious examples of this condition are those in which the thrombosis involves the cavernous sinus, and where the resulting paralysis appears in the distribution of the third and sixth nerves. But by extension of the thrombosis into, say, the petrosal sinuses, nerves other than the two just mentioned may also be implicated, and in this way a comparatively wide area of paralysis may be produced, presumably by the pressure of blood clot. Again, thrombosis must be considered in connexion with the disturbances likely to occur in the tissues in the immediate neighbourhood of the obstructed vessel. These disturbances include such events as hæmorrhage, œdema, and softening, any one of which, if favourably situated, may readily interfere with the functions of the centre or trunk of one or other of the cranial nerves. Possibly such considerations, though plainly applying to ocular paralyses occurring in anæmia, may be said to leave untouched the issue in regard to optic neuritis. Yet even here the chance of finding an explanation is not altogether hopeless. A thrombus, particularly if it is formed in one of the larger sinuses, may fairly be regarded as a "foreign body" or "adventitious product" within the skull, and in this sense comes under Hughlings Jackson's definition of intracranial tumour. So presented, it appears as a not improbable cause of optic neuritis, or at least the connexion between it and optic neuritis is hardly more mysterious than is the connexion between optic neuritis and any other form of "tumour." With this suggestion, too, must be taken the fact that sinus thrombosis pure and simple is very much less likely to be accompanied by general symptoms of cerebral disturbance than is thrombosis affecting the cerebral veins. Indeed, there can be little doubt that a limited sinus thrombosis may occur entirely without clinical evidence of the fact. On the other hand, it is in cases where the cerebral veins are involved—and especially where they are extensively involved—in the

of double optic neuritis. If, therefore, these cases are due to thrombosis in the venous channels of the skull—and escape from this conclusion seems impossible—it follows that such thrombosis is an efficient cause of double optic neuritis. It is true that in some of the cases to which reference is now made optic neuritis has not been present. But these negative experiences cannot invalidate the definite and positive observations in which optic neuritis, existing together with other cerebral symptoms, has been found to have no pathological explanation other than intracranial thrombosis. The position finds an exact parallel in intracranial tumour. In some cases of tumour double optic neuritis is a prominent feature; in others the optic discs are normal. No one will use this latter fact as an argument to contest the proposition that intracranial tumour is competent as a cause of double optic neuritis. And the same conclusion must be applied to intracranial venous thrombosis. Among its possible effects, therefore, must be accepted the development of double optic neuritis.

It is hardly necessary to argue that another consequence may be a limited paralysis—say, for example, of one or other of the ocular muscles. If hemiplegia may be due to intracranial venous thrombosis—and this is beyond dispute—an ocular paralysis may well own a similar explanation, and, indeed, there are many cases in which this association has been clearly established. Therefore it may be affirmed, (1) that intracranial sinus and venous thromboses are the cause of the more or less severe cerebral attacks which occasionally complicate the course of chlorosis; and (2) that such thromboses may include among their consequences both double optic neuritis and ocular or other limited palsies.

With these propositions admitted, attention may be directed to the following summarised case-record.[1]

A girl, aged 17 years, manifestly the subject of chlorosis, came to hospital complaining of double vision. Examination showed that the diplopia was due to paralysis of the right external rectus muscle, and that each optic disc was swollen and its edges concealed by exudation; there was also some retinitis. There was no albuminuria and no evidences, other than the above, of organic disease were present. In the course of three months the patient had made a complete recovery.

Here, then, is a patient whose illness conforms strictly to the usual course of chlorosis, except for the fact that she has double optic neuritis and an ocular paralysis. These two events, if the argument already advanced is sound, may certainly be accounted for by intracranial thrombosis, to which, from her anæmic condition, the patient is undoubtedly liable. An alternative explanation is hard to suggest and in view of all these circumstances the diagnosis of intracranial thrombosis may reasonably be held to be probable or even inevitable. Take a second case-record.[2]

A patient, aged 22 years, was admitted to hospital on account of severe headache, breathlessness, double vision, and failing sight. She was found to be the subject of chlorosis, of marked double optic neuritis with retinitis, and of paralysis of the left external rectus muscle. In addition, the knee-jerk could not be obtained on either side. The patient ultimately made a complete recovery, though the return of the knee-jerks was delayed for many months.

Here, again, the argument in reference to the cause of the optic neuritis and ocular paralysis may be repeated. Thrombosis will explain these facts and it will also, presumably, explain the severe headache. Possibly the loss of the knee-jerks may not so readily accommodate itself to the diagnosis of intracranial thrombosis, but even here it may be remembered that certain intracranial tumours and also some forms of meningitis, cause a similar loss. Further, in some of the more serious cases of anæmic thrombosis, as proved by necropsy, distinct disturbance of the tendon jerks has been observed, though this has perhaps been rather in the direction of excess than defect. Altogether there seems abundant justification for the claim that the above case is a further example of double optic neuritis and an ocular paralysis occurring in a patient free from evidences of disease other than anæmia, and that these two symptoms must find in intracranial thrombosis their clinical and pathological explanation. Hence it would seem not only that double optic neuritis and an ocular paralysis may be numbered among the clinical events possibly attendant upon intracranial thrombosis, but also that they may appear as the only evidences of this condition. This conclusion brings such case-records as the two just quoted into a natural relationship with the more extreme examples of cerebral disturbance to which reference has already been made and in a certain number of which intracranial thrombosis has been demonstrated on necropsy. The difference between the two groups, it is suggested, is merely one of degree, and both groups own common cause in the shape of thrombosis affecting the cerebral veins and sinuses.

This position is further strengthened by the fact that experiences intermediate between the two extremes are by no means wanting. There are well-authenticated cases of anæmia in which the patients have been attacked more or less suddenly by severe headache, pains in the neck, and vomiting, together with optic neuritis and ocular paralysis. It is common to suggest that the intracranial condition responsible for these symptoms is a localised and transient meningitis, or an œdema of the brain, though positive evidence in support of either of these views is difficult to find. On the other hand, thrombosis will cover all the facts, and, if allowed, will permit the construction of a graded series of cases, occurring in anæmic patients, characterised by more or less severe evidences of cerebral disturbance, and finding in intracranial blood-clotting a common bond of interpretation. At one extreme are fatal cases with such symptoms as coma, delirium, various paralyses, and, sometimes, optic neuritis, and proved by necropsy to be dependent on intracranial thrombosis; next come examples of less severe but still considerable cerebral disturbances, including optic neuritis, and having a favourable termination, the diagnosis of intracranial thrombosis being confirmed by the occurrence of thrombosis in the jugular, femoral, or other veins; succeeding these may be placed cases of unusually violent headache and vomiting, with optic neuritis and an ocular paralysis; and after these fall those cases of anæmia in which optic neuritis and an ocular paralysis are the sole unusual events. The earlier members of this series are demonstrably dependent on thrombosis, whilst, as has already been argued, the cases in the last group readily adapt themselves to the same explanation. To detach the intermediate members of the series from the diagnosis of thrombosis is surely a somewhat arbitrary and unnatural proceeding, more especially when the alternative explanation suggested cannot possibly be more than a mere surmise. Hence the claim may be pressed, that in all the groups above presented as examples of more or less severe cerebral disturbances complicating anæmia there is one and the same underlying pathological condition—namely, thrombus formation in the intracranial veins or sinuses.

The question now arises whether the series of cases to be explained in this fashion can be carried a stage further. If optic neuritis and an ocular paralysis appearing together in a case of anæmia are to be attributed to intracranial thrombosis, is it not probable that when, under similar conditions, either exists alone, thrombosis is again the responsible cause? Thrombosis is competent to cause each of these events; it is also a recognised complication of the anæmic state; further, it may be questioned whether any more satisfactory, or indeed any equally satisfactory, explanation can be advanced. Hence thrombosis has a fair claim for recognition as the cause both of optic neuritis and of ocular paralysis when one or other of these symptoms appears as the sole unusual departure from the ordinary clinical course of simple anæmia. Ocular paralysis, it may be admitted, is only very occasionally in this position. Double optic neuritis, on the other hand, is a well-recognised complication of anæmia and its occurrence has given rise to a good deal of speculation. Here it is presented—and the same may be said of an ocular paralysis—as the simplest clinical expression of an intracranial thrombosis, and the claim is made that an examination of the series of cases in which cerebral events complicate anæmia affords a presumptive proof of the correctness and adequacy of this proposition.

An attempt may now be made to find support for the argument that optic neuritis in anæmia is probably due to intracranial thrombosis by an examination of certain other conditions in which, without any very obvious explanation, optic neuritis occasionally appears. One of these is the acute anæmia following a free hæmorrhage, as from the stomach, intestine, or uterus. Standing alone, such cases have a very

[1] Reported in detail in Glasgow Hospital Reports, vol. ii., p. 142.
[2] See article by Mr. Ernest Clarke and Dr. Hawthorne, THE LANCET, April 30th, 1904, p. 1198.

mysterious aspect. It will, however, be allowed that the condition of anæmia established by hæmorrhage is one in which thrombosis may readily occur, as, indeed, is occasionally demonstrated by clot formation in the veins of the trunk or limbs after considerable loss of blood attending surgical operations. Hence it is not impossible—not even improbable—that free bleeding from a mucous surface may be followed by intracranial thrombosis, and this may be advanced as the cause of the optic neuritis in the cases now under consideration. It is at least suggestive that optic neuritis sometimes occurs in circumstances in which intracranial thrombosis is certainly a possibility, and where an explanation of the neuritis other than thrombosis is not easily imagined. Thus the occasional occurrence of optic neuritis in the acute anæmia following free hæmorrhages from mucous surfaces may be quoted in support of the doctrine that the optic neuritis sometimes seen in chlorosis is dependent on intracranial thrombosis.

Another condition in which optic neuritis may appear without any very manifest explanation is suppurative disease of the middle ear. In some of these cases the neuritis is associated with an ocular paralysis, and in others an ocular paralysis exists without any attendant optic neuritis. That is, purulent disease of the middle ear may present ocular complications identical with those which are occasionally found in simple anæmia—namely, optic neuritis and ocular paralysis—and these two events may be associated, or either of them may exist apart from the other. So far as optic neuritis is concerned the suggestion has been made that this may complicate tympanic disease altogether apart from intracranial complications. Obviously this can only mean apart from intracranial complications producing manifest cerebral symptoms, and the suggestion by no means guarantees the absence of sinus thrombosis, to which purulent otitis media is notoriously liable. For the most part, however, an optic neuritis, and perhaps still more an ocular paralysis, developing in the course of suppurative disease of the middle ear, means, without question, some more or less serious development within the skull. This development may be abscess, meningitis, or sinus thrombosis, and to judge from post-mortem records it would appear that of the three it is thrombosis which most frequently gives rise to optic neuritis.

Further, on more than one occasion it has happened that removal of clot from the lateral sinus has been followed by disappearance of an existing optic neuritis, and although in those cases where the patient has recovered it is impossible absolutely to exclude meningitis, the absence of evidences of this condition has repeatedly been noted during the operation, and in some of the fatal cases necropsy has demonstrated that meningitis was not present, and that sinus thrombosis, perhaps with more or less œdema of the brain, was the only abnormal intracranial condition that could be detected. Still more, it has on several occasions been found that optic neuritis—and sometimes, too, an ocular paralysis—has existed in middle-ear disease quite apart from any other evidence of cerebral disturbance and yet has disappeared, either without operation or after operative measures restricted to the mastoid and tympanum and not involving the cranial cavity. Obviously in these cases there cannot have been a cerebral abscess, and meningitis is improbable or at least is less probable than thrombosis. Among the recognised possibilities of the situation, therefore, there remains only thrombosis, and this, as shown in the records already quoted, is fully competent to explain the ocular conditions to which attention is now directed. In short, both optic neuritis and ocular paralysis may complicate middle-ear disease, and these complications may be explained by intracranial thrombosis, to which such disease may most certainly give rise. In certain fatal cases no intracranial condition competent to explain these events other than thrombosis has been discovered. Is it not, therefore, in the highest degree probable that when either optic neuritis or an ocular paralysis occurs as the single unusual event in the course of purulent disease of the middle ear that sinus or venous thrombosis is the responsible cause? And if this is true of middle-ear disease, is not a similar conclusion inevitable in reference to anæmia? In both diseases thrombosis is a possibility; in both such thrombosis occasionally produces severe cerebral disturbances which may include either optic neuritis or an ocular paralysis; and in both each of these last-mentioned facts may exist as the sole unusual event. To find, apart from thrombosis, an element common to the two diseases and able to account for optic neuritis or an ocular paralysis existing as an isolated fact is a task not easily accomplished, and it may therefore be urged that there is at least a strong presumption that intracranial thrombosis is in each instance the correct explanation.

Here, then, are three conditions, namely, acute anæmia, middle-ear disease, and chlorosis, in each of which optic neuritis, apart from other complications, occasionally makes its appearance. In each there is a possibility of intracranial thrombosis, and this must be allowed as at least a possible cause of the neuritis. To suggest some other cause, which is at the same time common to the three diseases now in question, is a demand not readily satisfied. Hence it may be claimed that the study of the clinical history of acute anæmia and of purulent disease of the middle ear adds force to the contention that the optic neuritis sometimes seen in anæmic women is dependent on the occurrence of thrombosis in the veins and sinuses within the cavity of the skull.

From all these facts it might perhaps be concluded that the suggestion of intracranial thrombosis as the cause of the optic neuritis of anæmia is so strongly supported that it needs must command universal assent. This, however, is far from being the case. On the contrary, the proposal excites both incredulity and the opposition of rival interpretations. At the outset criticism applies to it this censure—that as there is no known or conceivable link by which thrombosis as a cause can be connected with optic neuritis as a consequence, the suggestion that the one is the cause of the other is not tenable. To this it may be answered that failure to provide an exact explanation of the mechanism uniting two associated events cannot be successfully pleaded against the proposition that one of these is the cause of the other provided there are, otherwise, valid reasons which render such a relationship probable. Were such a canon of criticism enforced it would, to quote but a single illustration, compel a refusal to accept intracranial tumour as a cause of optic neuritis, for the pathway leading from the one to the other is far from being apparent. Yet, while claiming the protection of this general proposition, it may be advisable to attempt to find some apt and suggestive reasons on which a belief in the capacity of thrombosis to produce such consequences as optic neuritis and ocular paralysis may be reasonably based. Regarding the latter there can be no difficulty. Indeed, it is universally recognised that thrombosis in certain of the sinuses at the base of the skull does, as a matter of experience, and presumably by pressure on the trunks of the cranial nerves, cause paralysis of the muscles of the eyeballs. Perhaps the most obvious examples of this condition are those in which the thrombosis involves the cavernous sinus, and where the resulting paralysis appears in the distribution of the third and sixth nerves. But by extension of the thrombosis into, say, the petrosal sinuses, nerves other than the two just mentioned may also be implicated, and in this way a comparatively wide area of paralysis may be produced, presumably by the pressure of blood clot. Again, thrombosis must be considered in connexion with the disturbances likely to occur in the tissues in the immediate neighbourhood of the obstructed vessel. These disturbances include such events as hæmorrhage, œdema, and softening, any one of which, if favourably situated, may readily interfere with the functions of the centre or trunk of one or other of the cranial nerves. Possibly such considerations, though plainly applying to ocular paralyses occurring in anæmia, may be said to leave untouched the issue in regard to optic neuritis. Yet even here the chance of finding an explanation is not altogether hopeless. A thrombus, particularly if it is formed in one of the larger sinuses, may fairly be regarded as a "foreign body" or "adventitious product" within the skull, and in this sense comes under Hughlings Jackson's definition of intracranial tumour. So presented, it appears as a not improbable cause of optic neuritis, or at least the connexion between it and optic neuritis is hardly more mysterious than is the connexion between optic neuritis and any other form of "tumour." With this suggestion, too, must be taken the fact that sinus thrombosis pure and simple is very much less likely to be accompanied by general symptoms of cerebral disturbance than is thrombosis affecting the cerebral veins. Indeed, there can be little doubt that a limited sinus thrombosis may occur entirely without clinical evidence of the fact. On the other hand, it is in cases where the cerebral veins are involved—and especially where they are extensively involved—in the

thrombotic process, that severe and general symptoms display themselves. Hence there is no difficulty in imagining in a case of anæmia a sinus thrombosis sufficient to cause such a limited clinical expression as optic neuritis and yet failing, in consequence of non-extension of clot formation to the cerebral veins, to excite any general exhibition of cerebral disturbance. Such a suggestion, it may be held, provides a possible explanation of optic neuritis appearing as an isolated event in anæmia, and also meets the objection that, were the cause of such neuritis thrombus formation within the skull, there must needs be clinical evidence of this on a more or less extensive scale. In any event, whether the proposals here advanced on the theoretical aspects of optic neuritis and ocular paralysis occurring as clinical facts in cases of anæmia are, or are not, warranted, it is beyond question that intracranial thromboses may and do occur in anæmia, and that among their clinical evidences optic neuritis and ocular paralyses are most unquestionably to be numbered.

Again, it has been urged that if thrombosis of the veins and sinuses within the skull can cause optic neuritis the same result ought to follow blocking, as by thrombosis or embolism, of the cerebral arteries, and this admittedly (unless the clot be septic) is not the case. With all deference, the relevance of this argument may be contested. The circulatory and other changes which follow obstruction of an artery are not identical with those produced by obstruction of a vein, and in view of the admitted obscurity of the relations between optic neuritis on the one hand and intracranial lesions on the other, it is hardly safe to conclude that because arterial thrombosis does not cause optic neuritis venous thrombosis must necessarily fail to do so. Against such a conclusion, further, may be set the facts of experience, which compel the conviction that between venous thrombosis and arterial thrombosis there is, so far as optic neuritis is concerned, some essential difference. The one, whatever be the explanation, is, or may be, in the clinical order of events associated with optic neuritis, and the other has no such association. In view of such facts it seems idle to argue that because arterial obstruction does not cause optic neuritis venous obstruction must necessarily be incompetent in this respect. The facts show the contrary. *Hippocrate dira ce qu'il lui plaira; mais le cocher est mort.*

Once more, it has been said that whereas the optic neuritis of anæmia commonly subsides as the anæmia disappears under the administration of iron, this fact shows that the neuritis is due to some depreciation in the quality of the blood; were the neuritis due to thrombosis the therapeutic use of iron could not have any effect on it. The answer to this is that the optic neuritis of anæmia by no means always disappears promptly, and that its movement is far from keeping strict time with the improvement in the blood quality. On the contrary, it may persist for weeks or sometimes even for months after all the ordinary evidences of anæmia have completely disappeared. Further, it must be accepted that optic neuritis—and the same is true of the evidences of thrombosis generally—is not confined to cases in which the degree of anæmia is extreme. It may, indeed, exist with but moderate evidences of anæmia, and is frequently absent in the more severe cases—facts difficult to reconcile with the view that it is due directly to some blood defect. On the other hand, the suggestion of thrombus formation and persistence is readily consistent with an optic neuritis which endures in spite of a cure of the anæmia, while ultimate disappearance of the neuritis may reasonably be attributed to removal of the thrombus by those natural processes under the operation of which the channel of a thrombosed vessel may be completely restored.

Thus, to summarise the objections, it may be said that neither a difficulty in providing a manifest explanation of the mechanism by which sinus thrombosis may produce optic neuritis; nor the claim that the frequent absence of general cerebral disturbance with such neuritis opposes the diagnosis of intracranial thrombosis; nor the observation that in arterial thrombosis optic neuritis does not occur; nor the comment that the neuritis disappears under treatment by iron—is found, on examination, to present any insuperable objection to the proposition that optic neuritis occurring in anæmia has, in all probability, its explanation in the formation of blood clot in the veins or sinuses of the brain.

Attention may now be directed to certain other hypotheses which have been advanced to explain the occasional existence of optic neuritis in anæmia. One of these suggests that the cases are really examples of poisoning either by lead or syphilis and that to one or other of these agents both the anæmia and the neuritis must be attributed. It may be said at once that there is little, if any, positive evidence to support this statement. The recorded cases do not exhibit any of the usual symptoms of plumbism or syphilis, and the cure is effected not by remedies appropriate to these diseases but by the direct treatment of the anæmia. It may also be remarked that optic neuritis, as this occurs in anæmia, is frequently marked by very considerable swelling of the optic discs, and is on this account much more suggestive of some definite intracranial lesion than of a toxic condition of the blood, in which, when it produces optic neuritis, the swelling of the disc is a comparatively insignificant fact. Indeed, the ophthalmoscopic picture in the optic neuritis of anæmia often exactly agrees with the facts common in intracranial tumour, and unless this is remembered a serious error in diagnosis may be made, especially if, as is not uncommon in anæmic women, the patient also suffers from more or less severe headache and from occasional attacks of vomiting (Gowers).

According to a second theory, the optic neuritis of anæmia depends on œdema of the brain. This, however, is little more than an empty phrase. The only evidence in support of such a view is, perhaps, to be found in some few cases in which the existence of optic neuritis in association with amenorrhœa has been recorded, the necropsy revealing an excess of fluid in the cerebral ventricles. Such a pathological condition can, however, hardly have been a primary one, and in the absence of any definite statement in reference to thrombosis it seems not unlikely that the cases were really cases of anæmia, and that the essential intracranial change was clot formation in the cerebral veins and sinuses—a condition which, unless special search is made for it, may be readily overlooked even on post-mortem examination.

Demanding more respect than either of the foregoing suggestions is the view advanced by Sir William Gowers—namely, that optic neuritis in chlorosis depends partly on continued congestion of the optic discs due to hypermetropia, and partly on a toxic or other abnormal quality of the blood. On this, with great deference, it may be remarked that hypermetropia is not present in all cases of chlorotic optic neuritis, and that in any event it is difficult to believe that eye-strain, even when acting in coöperation with some deleterious agent present in the blood, can explain the extreme degree of swelling of the optic discs which has repeatedly attracted attention in the cases now under consideration. Further, neither eye-strain nor toxæmia will readily account for a unilateral ocular paralysis which, as has already been shown, occasionally accompanies the optic neuritis of anæmic women. Hence, in such a case it is necessary, on the view now under discussion, either to invoke two separate and distinct causes—one for the optic neuritis and a second for the ocular paralysis—or to argue that optic neuritis accompanied by an ocular paralysis in a case of chlorosis owns a different cause from the one which is in operation when, in similar conditions, optic neuritis appears apart from such paralysis. It may be fairly said that neither of these alternatives offers an inviting choice. On the other hand, thrombosis, which, in the circumstances, must be admitted as at least a possibility, is adequate to explain all the facts—both the optic neuritis and ocular paralysis existing in association and the optic neuritis present as an isolated event. In short, any theory other than intracranial thrombosis interposes a gap between cases of chlorosis accompanied merely by optic neuritis, and cases of the same disease in which there exist, together with optic neuritis, various other evidences of cerebral disturbance, whilst thrombosis brings all these cases into a common category and, while recognising a wide variety in the extent and severity of the clinical manifestations, includes all alike in an identical order.

Turning now from optic neuritis and ocular paralyses as occasional events in the clinical history of simple anæmia, attention may next be directed to certain disturbances of the visual fields which may exceptionally appear as complications in this disease. Probably these are very rare and it is to the courtesy of my hospital colleagues that I am indebted for the opportunity of studying the two instances which have come under my observation.

The first[3] was that of a woman, aged 34 years, in whom

[3] Mr. W. Ilbert Hancock's case, reported in detail in Practitioner, December, 1904.

TO ILLUSTRATE CASE IN DR. HAWTHORNE'S ADDRESS ON THE CEREBRAL AND OCULAR COMPLICATIONS OF ANÆMIA AND THE PROBABLE RELATIONSHIP OF THESE TO THROMBOSIS.

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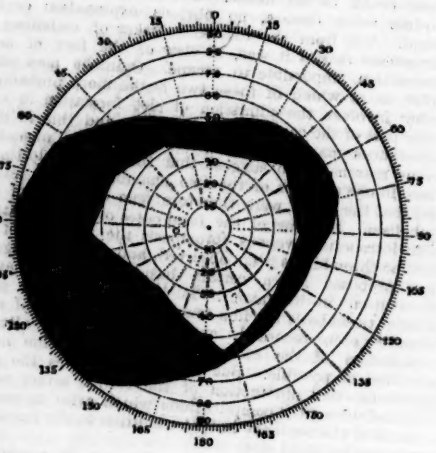

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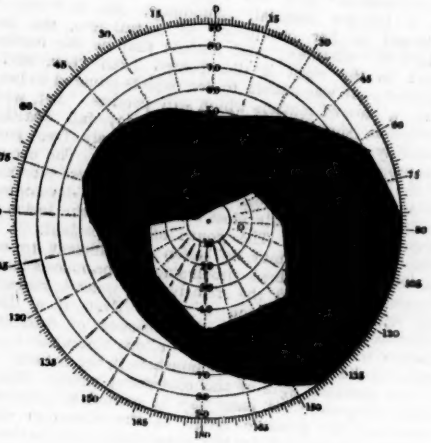

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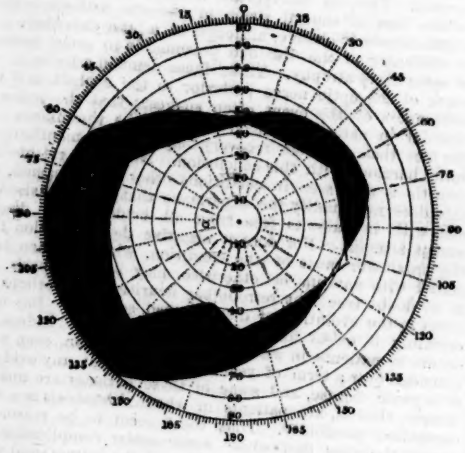

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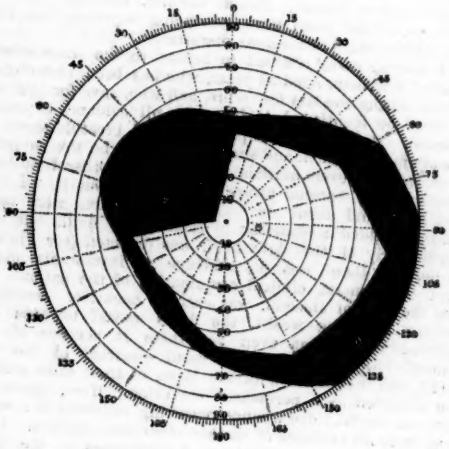

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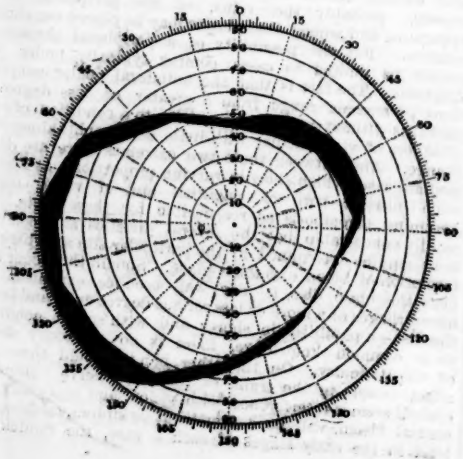

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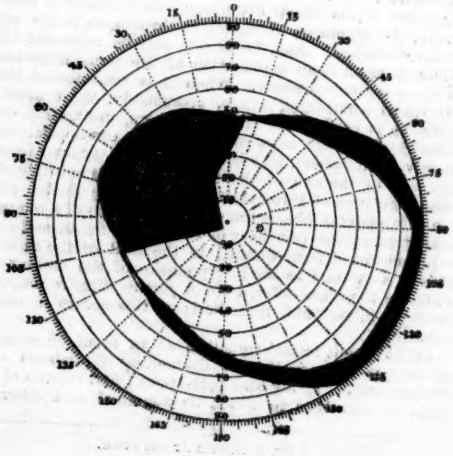

thrombotic process, that severe and general symptoms display themselves. Hence there is no difficulty in imagining in a case of anæmia a sinus thrombosis sufficient to cause such a limited clinical expression as optic neuritis and yet failing, in consequence of non-extension of clot formation to the cerebral veins, to excite any general exhibition of cerebral disturbance. Such a suggestion, it may be held, provides a possible explanation of optic neuritis appearing as an isolated event in anæmia, and also meets the objection that, were the cause of such neuritis thrombus formation within the skull, there must needs be clinical evidence of this on a more or less extensive scale. In any event, whether the proposals here advanced on the theoretical aspects of optic neuritis and ocular paralysis occurring as clinical facts in cases of anæmia are, or are not, warranted, it is beyond question that intracranial thromboses may and do occur in anæmia, and that among their clinical evidences optic neuritis and ocular paralyses are most unquestionably to be numbered.

Again, it has been urged that if thrombosis of the veins and sinuses within the skull can cause optic neuritis the same result ought to follow blocking, as by thrombosis or embolism, of the cerebral arteries, and this admittedly (unless the clot be septic) is not the case. With all deference, the relevance of this argument may be contested. The circulatory and other changes which follow obstruction of an artery are not identical with those produced by obstruction of a vein, and in view of the admitted obscurity of the relations between optic neuritis on the one hand and intracranial lesions on the other, it is hardly safe to conclude that because arterial thrombosis does not cause optic neuritis venous thrombosis must necessarily fail to do so. Against such a conclusion, further, may be set the facts of experience, which compel the conviction that between venous thrombosis and arterial thrombosis there is, so far as optic neuritis is concerned, some essential difference. The one, whatever be the explanation, is, or may be, in the clinical order of events associated with optic neuritis, and the other has no such association. In view of such facts it seems idle to argue that because arterial obstruction does not cause optic neuritis venous obstruction must necessarily be incompetent in this respect. The facts show the contrary. *Hippocrate dira ce qu'il lui plaira; mais le cocher est mort.*

Once more, it has been said that whereas the optic neuritis of anæmia commonly subsides as the anæmia disappears under the administration of iron, this fact shows that the neuritis is due to some depreciation in the quality of the blood; were the neuritis due to thrombosis the therapeutic use of iron could not have any effect on it. The answer to this is that the optic neuritis of anæmia by no means always disappears promptly, and that its movement is far from keeping strict time with the improvement in the blood quality. On the contrary, it may persist for weeks or sometimes even for months after all the ordinary evidences of anæmia have completely disappeared. Further, it must be accepted that optic neuritis—and the same is true of the evidences of thrombosis generally—is not confined to cases in which the degree of anæmia is extreme. It may, indeed, exist with but moderate evidences of anæmia, and is frequently absent in the more severe cases—facts difficult to reconcile with the view that it is due directly to some blood defect. On the other hand, the suggestion of thrombus formation and persistence is readily consistent with an optic neuritis which endures in spite of a cure of the anæmia, while ultimate disappearance of the neuritis may reasonably be attributed to removal of the thrombus by those natural processes under the operation of which the channel of a thrombosed vessel may be completely restored.

Thus, to summarise the objections, it may be said that neither a difficulty in providing a manifest explanation of the mechanism by which sinus thrombosis may produce optic neuritis; nor the claim that the frequent absence of general cerebral disturbance with such neuritis opposes the diagnosis of intracranial thrombosis; nor the observation that in arterial thrombosis optic neuritis does not occur; nor the comment that the neuritis disappears under treatment by iron—is found, on examination, to present any insuperable objection to the proposition that optic neuritis occurring in anæmia has, in all probability, its explanation in the formation of blood clot in the veins or sinuses of the brain.

Attention may now be directed to certain other hypotheses which have been advanced to explain the occasional existence of optic neuritis in anæmia. One of these suggests that the cases are really examples of poisoning either by lead or syphilis and that to one or other of these agents both the anæmia and the neuritis must be attributed. It may be said at once that there is little, if any, positive evidence to support this statement. The recorded cases do not exhibit any of the usual symptoms of plumbism or syphilis, and the cure is effected not by remedies appropriate to these diseases but by the direct treatment of the anæmia. It may also be remarked that optic neuritis, as this occurs in anæmia, is frequently marked by very considerable swelling of the optic discs, and is on this account much more suggestive of some definite intracranial lesion than of a toxic condition of the blood, in which, when it produces optic neuritis, the swelling of the disc is a comparatively insignificant fact. Indeed, the ophthalmoscopic picture in the optic neuritis of anæmia often exactly agrees with the facts common in intracranial tumour, and unless this is remembered a serious error in diagnosis may be made, especially if, as is not uncommon in anæmic women, the patient also suffers from more or less severe headache and from occasional attacks of vomiting (Gowers).

According to a second theory, the optic neuritis of anæmia depends on œdema of the brain. This, however, is little more than an empty phrase. The only evidence in support of such a view is, perhaps, to be found in some few cases in which the existence of optic neuritis in association with amenorrhœa has been recorded, the necropsy revealing an excess of fluid in the cerebral ventricles. Such a pathological condition can, however, hardly have been a primary one, and in the absence of any definite statement in reference to thrombosis it seems not unlikely that the cases were really cases of anæmia, and that the essential intracranial change was clot formation in the cerebral veins and sinuses—a condition which, unless special search is made for it, may be readily overlooked even on post-mortem examination.

Demanding more respect than either of the foregoing suggestions is the view advanced by Sir William Gowers—namely, that optic neuritis in chlorosis depends partly on continued congestion of the optic discs due to hypermetropia, and partly on a toxic or other abnormal quality of the blood. On this, with great deference, it may be remarked that hypermetropia is not present in all cases of chlorotic optic neuritis, and that in any event it is difficult to believe that eye-strain, even when acting in coöperation with some deleterious agent present in the blood, can explain the extreme degree of swelling of the optic discs which has repeatedly attracted attention in the cases now under consideration. Further, neither eye-strain nor toxæmia will readily account for a unilateral ocular paralysis which, as has already been shown, occasionally accompanies the optic neuritis of anæmic women. Hence, in such a case it is necessary, on the view now under discussion, either to invoke two separate and distinct causes—one for the optic neuritis and a second for the ocular paralysis—or to argue that optic neuritis accompanied by an ocular paralysis in a case of chlorosis owns a different cause from the one which is in operation when, in similar conditions, optic neuritis appears apart from such paralysis. It may be fairly said that neither of these alternatives offers an inviting choice. On the other hand, thrombosis, which, in the circumstances, must be admitted as at least a possibility, is adequate to explain all the facts—both the optic neuritis and ocular paralysis existing in association and the optic neuritis present as an isolated event. In short, any theory other than intracranial thrombosis interposes a gap between cases of chlorosis accompanied merely by optic neuritis, and cases of the same disease in which there exist, together with optic neuritis, various other evidences of cerebral disturbance, whilst thrombosis brings all these cases into a common category and, while recognising a wide variety in the extent and severity of the clinical manifestations, includes all alike in an identical order.

Turning now from optic neuritis and ocular paralyses as occasional events in the clinical history of simple anæmia, attention may next be directed to certain disturbances of the visual fields which may exceptionally appear as complications in this disease. Probably these are very rare and it is to the courtesy of my hospital colleagues that I am indebted for the opportunity of studying the two instances which have come under my observation.

The first[3] was that of a woman, aged 34 years, in whom

[3] Mr. W. Ilbert Hancock's case, reported in detail in Practitioner, December, 1904.

TO ILLUSTRATE CASE IN DR. HAWTHORNE'S ADDRESS ON THE CEREBRAL AND OCULAR COMPLICATIONS OF ANÆMIA AND THE PROBABLE RELATIONSHIP OF THESE TO THROMBOSIS.

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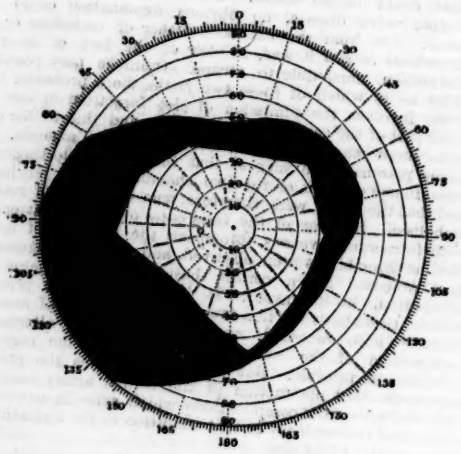

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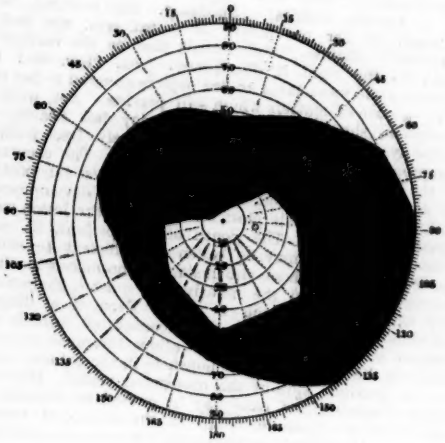

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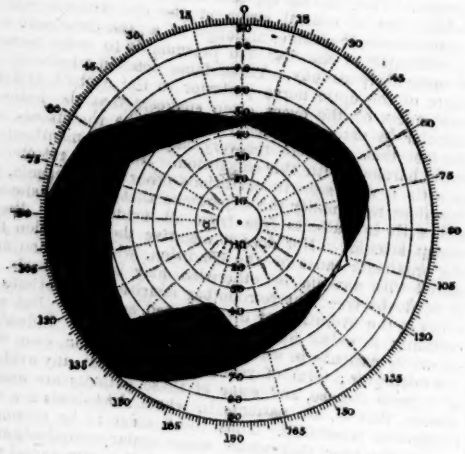

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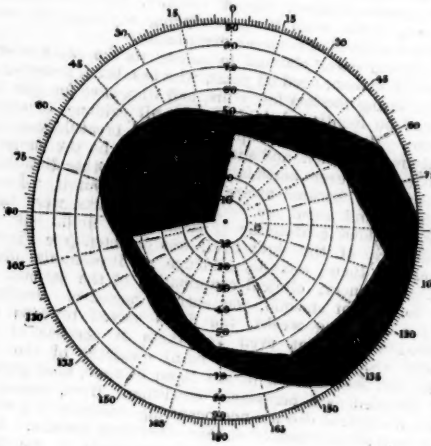

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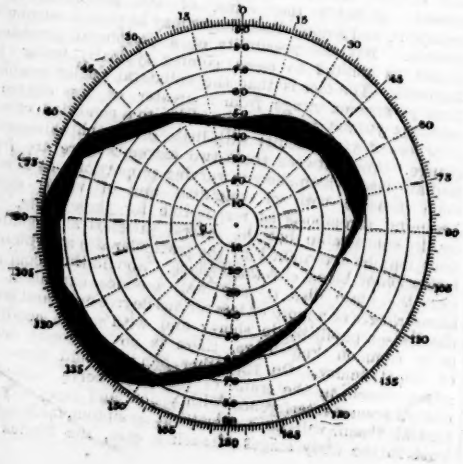

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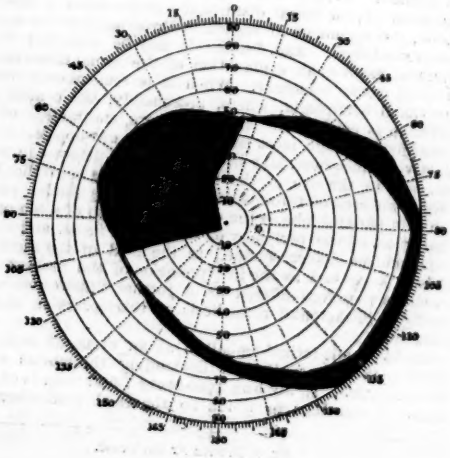

there was detected a right homonymous hemianopsia. This condition had been present for 13 years, as was proved by perimeter charts in the possession of the patient and taken near the date of onset. At that time she was, to use her own words, suffering from "dyspepsia and bloodlessness," and was being treated as an out-patient at a London hospital. Suddenly, one morning, when engaged in her occupation as a tailoress, she had an attack of "dizziness," and noticed that as she carried her hand to the right it disappeared from view, and that generally she was unable to see objects situated to her right side—a state of matters which still persists. Yet, with this exception, she has continued to enjoy fair health, and certainly has been, and still is, entirely free from all symptoms of active intracranial disease. The occurrence of the hemianopsia, it will be allowed, involves the existence of some cerebral lesion, and the sudden development of this symptom suggests most strongly that the lesion was of circulatory origin. The youth of the patient, 21 years, other facts apart, may be taken as sufficient to exclude hæmorrhage. In these circumstances thrombosis inevitably suggests itself, and the relatively "quiet" character of the seizure favours such a view. Even if a diagnosis of embolism be preferred, the absence of cardiac valve disease makes it necessary to allow thrombus formation either in the heart itself or somewhere in the arterial system on the proximal side of the obstructed vessel. Hence, on either diagnosis, the case may be quoted to illustrate one aspect of the possible range of thrombosis in cases of anæmia. On the whole, the probabilities may be claimed as favouring venous thrombosis, and, if this is accepted, the case enforces a view already advanced, that such thrombosis may cause a limited, though definite, clinical expression without, at the same time, producing anything like widespread evidences of cerebral disturbance.

A second case,[4] claimed to belong to the same order, is that of a woman, aged 32 years, who has been under observation during the last few years, and who, save for the facts now to be mentioned, is free from all evidence of organic disease. Her original complaint was of breathlessness and scanty menstruation, and she was found to be the subject of a moderately severe anæmia. Without any other disturbance she suddenly became aware that, as she put it, "I could not see round about me." The visual charts were taken, and a decided contraction of each visual field, but more particularly of the right field, was detected (see Figures). Otherwise there was no evidence of intracranial disease and the general clinical examination of the patient, save for the fact of anæmia, was entirely negative. Gradually, in the following weeks, the fields moved towards their normal limits, but even yet there is absence of peripheral vision in the upper nasal quadrant of the right field, and this, in view of the lapse of time, must probably be accepted as a permanent condition. Here, again, is a limited cerebral disturbance occurring suddenly in a woman free from all evidence of disease other than anæmia. In the circumstances the suggestion of thrombosis in the higher reaches of the visual apparatus on the left side can hardly be resisted. Even if it is objected that the initial bilateral character of the visual disturbance necessitates a bilateral lesion, the argument in regard to thrombosis is not appreciably weakened. And, further, it may be answered that a bilateral lesion as an explanation of the visual disturbances is by no means necessary. When it is remembered that in functional hemiplegia, where, presumably, the central disturbance is confined to one hemisphere, contraction of the visual field, though most marked in the eye opposite to the inactive hemisphere, may be detected also, at least in some measure, in the eye of the same side, it is not difficult to accept an area of thrombosis limited to the hinder part of the left parietal lobe as the explanation both of a temporary limitation of the periphery of both visual fields, and also of a permanent defect confined to the field of the right eye. This is suggested as the interpretation of the present case, which is therefore offered as a further illustration of the range of intracranial thrombosis as this occurs in cases of anæmia.

I next submit retinal embolism as an event of occasional occurrence in anæmia and demanding thrombosis as its interpretation. In my own note-books I find records of three cases of embolism in which no abnormal fact other than anæmia could be detected. The patients were females, aged 21, 27, and 42 years. In none of the cases was there a history of rheumatism and all alike were free from evidences of cardiac disease and of arterial degeneration. That the central artery of the retina was in each instance blocked there could be no doubt. For this, in the absence of cardiac valve disease, no obvious explanation could be found. Yet from the existence either of embolism or of thrombosis *in situ* it was, in view of the fact of arterial obstruction, impossible to escape. Opinions may possibly differ as to which of these two is the more probable, but either involves the admission of clot formation in one or other part of the cardio-arterial system, and this in the circumstances may fairly be attributed to the anæmia. It seems reasonable to suggest that the primary clotting took place in one or other of the two chambers of the left heart and that the cases were therefore true examples of retinal embolism. In some of the fatal cases of chlorosis attended with intracranial venous thrombosis the presence of intracardiac thrombi has been observed, and thus the suggestion here proposed has a certain basis of actual anatomical observation in its favour. It is also true that primary arterial thrombosis has in a few exceptional cases of anæmia likewise been recorded, and therefore this alternative explanation of the cases now under discussion must be admitted as possible. But either view serves the present argument—that obstruction of the retinal artery must be included among the complications which arise in anæmia as a result of the tendency in that condition to the formation of intravascular blood clot.

Lastly, as an occasional complication in anæmia, and possibly due to thrombosis, may be mentioned retrobulbar neuritis. This, in its typical form, is characterised by sudden loss of central vision in one eye without evident ophthalmoscopic change, although at a later date there may be whitening of the disc due presumably to some measure of optic nerve atrophy. These facts demand a lesion in the trunk of the optic nerve posterior to the eyeball, and the suddenness of the event often suggests that the lesion is vascular in nature. It may, therefore, be thrombosis, and the fact that complete recovery may occur is manifestly in entire harmony with this conclusion. No doubt retrobulbar neuritis is also seen in conditions other than anæmia, but this does not qualify the experience that it is occasionally met with in patients free from all evidences of disease except anæmia. Nor does it negative the suggestion that the proximate cause of the condition, whether when associated with anæmia or otherwise, may be thrombosis. It is no doubt true that retrobulbar neuritis is sometimes an event in the evolution of disseminated sclerosis. But most certainly it exists apart from this disease. Indeed, it occurs in patients in whom clinical observation, even when extended over a term of years, fails to detect any evidence of organic disease, and some of these patients are anæmic women, that is, are patients in whom thrombosis is a well-recognised possibility. Thus there seem to be reasons to accept the view that while some ocular complications in anæmia may be due to thrombosis of the intracranial veins and sinuses, others may depend upon thrombosis in the vessels, probably the veins, of the peripheral visual apparatus, and among these latter may be placed retrobulbar neuritis. But the possibility of a peripheral thrombosis cannot be limited to cases coming typically under this diagnosis. The fact is that the unilateral ocular complications of anæmia range from a greater or less degree of papillitis without prejudice to vision to a condition of complete loss of visual acuity with little or no ophthalmoscopic change. And between these two extremes there are intermediate cases which show in varying proportions, as it were, some measure both of papillitis and of visual defect. Assuming thrombosis as responsible for these facts, it is readily conceivable that the several varieties and combinations may be determined by the particular site at which the formation of blood clot takes place. Should this occur at or near the optic disc it may well produce exudation and hæmorrhages of a more or less serious degree upon and around the disc—a papillitis, in short; and with such a condition, as is common knowledge, there is no necessary decline of visual acuity. On the other hand, should thrombosis affect vessels in the trunk of the optic nerve behind the eyeball serious interference with vision, and especially with central vision, will be a prominent symptom, although, at least in the early stages of such a case, the fundus may

[4] Mr. T. Brittin Archer's case.

appear normal or may show nothing more than some fulness of the retinal veins. In the intermediate cases, that is, those in which papillitis and visual defect are both present, it may be surmised that thrombosis has involved both the vessels of the optic disc and also those of the nerve trunk. One further remark in connexion with these cases may be added. It does sometimes happen that a patient shows papillitis in each eye and in one or both eyes also a serious reduction of visual acuity. The latter fact, as already suggested, implies a lesion in the optic nerve trunk. Therefore when with double papillitis there is marked visual loss it seems probable that the thrombosis, assuming this to be the responsible lesion, is bilateral and peripheral, and further warrant for this view may be found in cases described as retrobulbar neuritis where the affection attacks both eyes, either simultaneously or in rapid succession. Thus there may be distinguished in anæmia two groups of cases in which bilateral papillitis (optic neuritis) is present. In one there is marked visual defect and here, for reasons just given, the probabilities are in favour of a bilateral peripheral lesion. In the other and more common variety there is little or no impairment of vision. In such circumstances it is sufficient to assume, as has already been suggested, a central or intracranial thrombosis, and the experience that with this order of neuritis more or less conspicuous clinical evidences of cerebral disturbance are sometimes present may be advanced in support of such an assumption. But in both groups, as well as in other cases in which optic neuritis and visual loss, either alone or in combination, are present, it may be submitted that thrombosis affords a possible explanation of the facts, and that by such explanation these cases are brought into a reasonable relationship with other cerebral and ocular conditions which occasionally manifest themselves in patients in whom, in spite of exact and continued clinical observation, nothing abnormal can be discovered other than a depreciated quality of the blood.

Such, then, in outline, are some of the cerebral and ocular complications[5] which may appear in the subjects of simple anæmia. It may perhaps be said that these accidents are very unusual. Still, they occur, and therefore demand explanation; and it is possible that in their slighter forms they would more frequently be discovered were examination made for them. Further, the infrequency of these complications is by no means out of harmony with the suggestion that they depend on thrombosis; as, however, it may be explained, thrombosis, although a potential development in all cases of anæmia, only on rare and unusual occasions takes shape and form as a definite clinical occurrence. If the view here advocated is accepted, the occasions of thrombosis are somewhat enlarged, but even so increased there is no desire to pretend that these occasions are either relatively or absolutely frequent. Whether few or many, however, it is to be desired that clinical events shall be duly arranged in their appropriate order and relationship. The hypothesis here advanced is an attempt in this direction. Assuming it to be justified, it brings under a common explanation a number of events which, apart from it, are isolated and detached alike from one another and from the state of anæmia to which, in some fashion or other, their existence is undoubtedly due. In the practical sphere, the suggestion that optic neuritis, ocular paralyses, hemianopsia or other abnormalities of the visual field, retinal embolism, and retrobulbar neuritis, occurring in anæmic patients, are probably due to thrombosis, is significant, because on such interpretation any one or more of these events appearing in an individual case must be accepted as the sign of a tendency to thrombosis in an unusually marked degree, and must therefore claim the prompt application of the therapeutic measures which such a conclusion demands.

[5] Hæmorrhages in the retina are occasionally seen in patients suffering from chlorosis and may possibly be either direct or secondary to thrombosis. They are quite exceptional, and even when present probably not more than one or two will be detected. In pernicious anæmia, on the other hand, multiple retinal hæmorrhages are the rule.

A RUSSIAN OTO-LARYNGOLOGICAL CONGRESS.—From Jan. 8th to 11th next the first all Russian Oto-Laryngological Congress will be held in the Pirogoff Museum. Advantage will be taken of the occasion to hold an exhibition of instruments, apparatus, &c., related to oto-rhino-laryngology.

THE MEDICAL ASPECT OF GASTRO-ENTEROSTOMY, BASED ON 128 OPERATIONS AT THE MANCHESTER ROYAL INFIRMARY.

BY E. B. LEECH, M.D. CANTAB., M.R.C.P. LOND.,
RESIDENT MEDICAL OFFICER AT THE MANCHESTER ROYAL INFIRMARY.

IN general hospitals there is a large class of cases of chronic gastric ulcer admitted to the medical wards, treated there for a few weeks, usually with immediate relief, and then dismissed with a certainty of recurrence, and this recurrence may even take the form of an acute perforation. An interest in this class of cases has led me to obtain permission from the surgeons of the Manchester Royal Infirmary to collect information concerning the after-history of their patients on whom gastro-enterostomy has been performed, for gastro-enterostomy is apparently the least dangerous and most efficient surgical means of treating many of these cases. I thought that by investigating, on the one hand, the previous sufferings, and, on the other hand, the operation results, good or bad, I might throw some light on the advisability of the operation in various circumstances.

It is, then, from the medical point of view rather than from the surgical that I have approached the subject, and though surgical questions have arisen I have not laid much stress on them. The question that has interested me is, Which are the cases of gastric trouble that the practitioner or physician should send to the surgeon for gastro-enterostomy? My object has been to learn what cases are suitable for operation rather than to decide how best to perform it. As but little extra labour was involved, my research was further extended to malignant as well as to non-malignant cases. I have been fortunate in tracing by letters and personal visits every one of the 128 cases of gastro-enterostomy performed in this hospital before the middle of 1907. My deductions being purely critical, in so much as I have had no direct interest in the operations, are free from personal bias. The standard by which I have judged the results has been a high one; the reports are given as far as possible in the actual words of the patients. Those cases alone are counted as cures where no persistent symptoms are mentioned by the patient.

STATEMENT OF CASES.

Of the 128 operations 79 were for non-malignant conditions, 46 were for malignant, while three have been excluded for reasons stated below. It must be remembered, however, that many of the operations were primarily exploratory, to decide whether the disease was malignant and, if so, to decide whether it was suitable for pylorectomy. In several instances where the patient's condition did not allow a thorough examination at the time of operation, time alone has decided the malignancy or otherwise of the case. The number of patients who have left hospital with a doubtful or wrong diagnosis is very striking; ten supposed malignant cases have shown themselves to be benign, and in three cases the opposite error has been made. For this reason any deductions involving a comparison of the success in malignant and non-malignant cases, and based on a sharp division to these two classes, may give a false impression.

The question of method of operation is so entirely in the surgeon's hands and is now so nearly settled in broad principle that I need only give a bare statement of the forms employed. The posterior anastomosis has been made in 74 non-malignant and in 33 malignant cases, the anterior in one and seven respectively; in ten there is no note as to the position of the opening. A partial gastrectomy has been performed in four cases, a gastroplasty in two cases, and an entero-enterostomy in two cases, but these figures do not include cases where any of these operations have been performed subsequently owing to failure of the original gastro-enterostomy. Murphy's button has been used twice, both times without giving relief. Robson's bobbin has been used in two cases in which relief ensued and in one case which died; Senn's plates have been used in one successful case.

Non-malignant cases.—These naturally form the most important group as the results may be permanent. The

histories of the various patients show that operation has in no case been performed where the symptoms were not severe; in fact, one is impressed with the delay rather than with over-haste in deciding to operate. The average duration of the dyspepsia in the patients with pyloric obstruction was over seven years; most of these patients had had one or more attacks of hæmatemesis, and nearly all were incapacitated from work either permanently or at frequent intervals. I believe that in all these cases there is no single one which would have been cured by medical means alone. The longest period which has elapsed between operation and report is five and a quarter years; the shortest (that is to say where the patient has survived) is eight months.

I have tabulated the cases according to the condition found at operation (Table A) and further to five classes (Table B) according to benefit derived that the degrees of success and failure may be more clearly apparent.

TABLE A.—*Condition Found at Operation.*

—	Class 1, relief complete.	Class 2, relief nearly complete.	Class 3, limited improvement.	Class 4, no improvement.	Class 5, death.
a. Pyloric ulcer causing obstruction	22	6	2	3	9
b. Duodenal ulcer...	4	1	0	0	1
c. Adhesions (no apparent ulcer) ...	2	0	1	0	1
d. Gastric ulcer (region not stated)	4	0	4	1	1
e. Ulcer, lesser curvature, and hour-glass stomach...	3	0	2	0	3
f. Ulcer at cardiac end	1	0	0	0	0
g. ? Normal stomach	0	1	0	1	0
h. Dilatation (? paralytic)	0	0	0	0	3
i. Various	1	0	0	2	0

TABLE B.—*Cases Divided according to Benefit Derived.*

	Number of cases.		Percentage.
Class 1. Relief complete	37	=	47
,, 2. Relief nearly complete	8	=	10
,, 3. Limited improvement (operation worth while)	9	=	11
,, 4. No improvement	7	=	9
,, 5. Died shortly after operation	18	=	23

I will first consider the cases according to the success obtained. The absolute joy of living in the cases where the relief is complete and the gratitude shown by patients probably are unequalled in any other operation in surgery. The measure of success in non-malignant cases where relief is obtained may be gathered from the fact that in the 19 patients who could give exact information there was an average gain of weight of 2 stones. Relapse in these cases does not seem to be common. In one case only where at first there was improvement complete and persistent enough to give hope of a permanent cure have I found a marked relapse. This occurred 21 months after the operation. The pain in this case formerly came immediately after food; it now comes three hours later. This fact is difficult to explain. The second class contains those cases where though the relief is very material there is still some persisting symptom, such as occasional vomiting, or where a fairly rigid diet is necessary. I have not considered cases as satisfactory enough for the third class unless the patient definitely states that he has been materially relieved by the operation. These first three classes taken together and forming 68 per cent. of the whole may be considered as successful. The other two classes forming 32 per cent. are failures. Perhaps the most startling result of this investigation is that the mortality in the non-malignant cases has reached 23 per cent.

The consideration and division of results according to the primary gastric condition are more difficult than I anticipated. This is to some extent due to the great influence which the patient's general condition (apart from the local lesion) has on the final result. So largely does the mortality depend on the general condition that I have found it more convenient to consider the fatal cases together rather than according to the local condition. Another difficulty arises from the lack of exact knowledge in many cases concerning the lesion even after operation, and to the frequency of a double lesion. An instance of this last is found in the part which adhesions play in several of the conditions described, and in my tables adhesions probably do not receive sufficient recognition.

A glance at Table A shows that the degree of success and failure in each class is strikingly level. As one might expect, the operation has been performed most frequently for pyloric obstruction. Thus of the 79 operations there was recognised pyloric stenosis in 42. The cases included in this class (Table A, *a*) are mainly straightforward cases of chronic pyloric ulcer with stenosis and in most instances secondary dilatation. Only two are of special interest: in one of these the obstruction followed suture of a perforated pyloric ulcer which occurred 23 days previously; in the other a pylorectomy was done later under the impression that the case was malignant. On microscopic examination the ulcer was found to be cicatricial. There is no preponderant success in these obstructive cases, as the average of successful cases is but slightly better here than in the total number of cases. As regards the results, the following points are of interest. Two of the patients have died recently from pulmonary tubercle; in both of these the relief to the gastric symptoms had been absolute. One of the patients in whom the relief was limited now has definite merycism: the notes of this case mention the repeating of food; they also state that a definite ulcer was found at the pylorus. The other patient with limited relief still vomits bile every few days, but has increased much in weight, formerly having been very thin. A Y-operation has been done since the original operation without much improvement. Thus of the eight partly successful cases (Group *a*, Classes 2 and 3) there is still occasional vomiting in five and slight pain or fulness after meals in three. Of the three complete failures, in one a Murphy's button was used and the opening was apparently too small, for great stomach dilatation persisted with collective vomiting. The passage of bismuth, as shown by an x ray examination, proved that the opening persisted. A further operation by which the opening was much enlarged has recently been performed and so far the result of this is satisfactory. In another case there was no relief at all and vomiting and pain persisted as before. An entero-enterostomy was done later but without effect. This patient has lost one stone in weight since the operation. The third patient only lived 26 months after operation and received no benefit. I have considered the fatal cases below with those of other classes.

The number of operations for duodenal ulcer which I have to report is few, but the results are good, five of the patients being cured or nearly so. In two of these there was distinct stomach dilatation before operation. The patient where the cure is not quite complete still has occasional bilious vomiting and is troubled with palpitation.

Closely related to these classes in so much as obstruction is frequent is that (Class *c*) where adhesions only were found. One of the four cases died; two made a complete recovery. In these the adhesions round the stomach were probably really due to ulcers. In one where there was limited relief the adhesions were very wide, apparently from a leaking typhoid ulcer 11 years earlier. Several operative attempts were made to overcome the chronic obstruction by breaking down the intestinal adhesions and at last a gastro-enterostomy was done with some measure of success.

In the class (*d*) where the region of the ulcer is not stated four cases were completely, and four cases were only slightly, relieved. One of these is the above-mentioned case where pain recurred 21 months after the operation; in two others both vomiting and pain returned, though less than before operation; in the last pain recurred but vomiting ceased.

Again, the small number of cases of ulcer in the lesser curvature causing more or less hour-glass contraction (Class *e*) limits a useful field of inquiry, and the class itself is heterogeneous as it is difficult to decide how much obstruction there was in the various cases. It will be seen that five of the cases showed improvement, though in two it was slight; in one of these, though the patient feels well and the pain after food has disappeared, an increasing difficulty in swallowing has taken place. Apparently the ulcer has extended to the orifice of the œsophagus causing stenosis, or more probably has pulled on it causing distension. A

gastrostomy has recently been performed. In the other case of limited relief pain and vomiting have returned, though less severely than before operation.

Besides this last class, in some of which there is no obstruction to the passage of food, I wish to call attention to the other successful cases where there does not seem to have been stenosis in any part of the stomach. In one an ulcer was found at the cardiac end of the stomach (Class *f*), the pylorus being apparently free. In another no lesion at all could be found. Another (Class *i*) supposed at the time, owing to a hard mass felt, to be one of pancreatic growth, no lesion of the stomach was found. The continued relief of this patient after gastro-enterostomy shows that the diagnosis of malignancy was wrong but the method of relief is by no means clear. In another non-obstructive case there was less success. In spite of a history pointing to gastric ulcer nothing definite was found at the operation and the gastro-enterostomy which was done gave absolutely no relief. At a further operation the opening was closed and the stomach and gut were left in their original condition. There was no improvement at first, but three months later the patient suddenly improved and rapidly increased three stones in weight. I cannot explain this.

One of the two unsuccessful cases of the various class certainly now has locomotor ataxia with typical gastric crises. There probably was also an ulcer at the time of operation; the other patient of this class perhaps has the same disease.

The most unsuccessful class is that where simple dilatation of the stomach is present due to atonic gastritis combined with general weakness. All the three cases which I have put in this class died.

In order to obtain a general idea of the cause of failure in the non-malignant cases I have collected these causes and the forms in which the trouble persists in the following table, which includes all of the 16 cases in the "limited" and "no improvement" classes.

TABLE C.

Persistent pain	10 cases.
Vomiting (two with bile)	8 ,,
Locomotor ataxia...	2 ,,
Mercyism...	1 case.
Development of œsophageal obstruction	1 ,,

I next consider the fatal cases *en bloc*. The mortality class is unexpectedly large, but it is only fair to point out that it includes every case where death occurred within two months of the operation; this is a longer period than is usually taken in statistics of surgical results. The cases fall under two headings: (1) unsuitable cases; and (2) errors in operation. It is, however, difficult to divide them sharply. Under unsuitable cases I include not only those which were unsuitable from a mechanical point of view, but those where the patient was unable to withstand the shock owing to bodily weakness. The following 12 may be considered in the class of unsuitable cases, seven of syncope or gradual failure, two of broncho-pneumonia, one of cerebral thrombosis, one of abortion after operation with hæmorrhage, and one where the operation was performed fairly soon after corrosive poisoning; here a sharp kink was found post mortem in the duodenum. Six deaths may be classed as due to errors of operation. In one the jejunum was anastomosed to the pyloric half of an hour-glass stomach, in another the opening was made between the stomach and ileum, one died from pyæmia, another from general peritonitis, another with continual vomiting, and the last from gastric hæmorrhage.

The ages of the non-malignant cases operated on are of interest, for age itself seems to be no bar. Of the 79 cases 63 are below and 16 above 50 years of age. Of the 16 older cases 12 are in the relieved or nearly relieved classes; four are dead. The percentage of cures happens to be greater here over than under 50 years of age.

Malignant cases.—The success in these cases is shown by the following table:—

TABLE D.

	Number of cases.		Percentage.
Class 1. Living over two months; relief obtained	15	=	32
Class 2. Living over two months; no relief	10	=	22
Class 3. Dying in less than two months after operation	21	=	46

This shows that only 32 per cent. of operations have been "worth while" and that 68 per cent. (Classes 2 and 3) are failures. This contrasts with the non-malignant cases, where the figures are reversed, 68 per cent. being successful and 32 per cent. being failures. With regard to the position of the growth, I find that in these 46 cases it was in 40 at the pylorus either primarily or by invasion; in one it was on the lesser curvature, in two on the posterior wall; in one there was invasion of the stomach from a secondary growth of the liver; the primary growth in this case was in the breast. The situation of the growth was not stated in two cases, but in both it was widespread. It may be well first to dispose of the cases not at the pylorus. The patients with growths on the lesser curvature and posterior wall all died within a few days of operation and the woman with secondary pyloric growth obtained no relief. The 40 obstructive cases fall into the classes as follows: some relief in 18, no relief in nine, early death in 13. In the relief class the success in some of the cases is certainly striking, especially when we remember that each of them was not considered fit for a partial gastrostomy at the time of operation and that therefore the disease must have been well advanced. Six of the patients were able to work for a year. In other instances, where health was not restored sufficient for work, vomiting, in many patients the most distressing symptom, was relieved. A strange contrast of success and failure is seen in the case of a musician who had a palpable tumour, which was found at the operation to be a fairly advanced carcinoma. The relief from the gastro-enterostomy was so marked that he was able to resume his work and believed himself cured. While working he cleared off a debt which had accumulated during his previous illness and had the happiest year of his life. Then pain recurred, though the gastro-enterostomy opening apparently remained patent throughout. The medical practitioner who attended him writes that he finally had the most extraordinary period of agony he had ever seen in any patient, and says that in his opinion the operation was not worth while.

The no relief class, which has an average after life of six months, is the most unsatisfactory, for here the patient has the discomfort of an operation which, without relieving the symptoms, may even prolong life. The mortality-class, though unsatisfactory from the surgeon's point of view, is in other respects not so distressing, for the operation is often done at the patient's special request and life would have been little longer if the risk had not been taken.

The longest survival after gastro-enterostomy for malignant disease has been 30 months. There has been no increase in the number of malignant cases operated on in recent years. The figures stand at 11, 8, 9, and 5 (six months only) for the years 1904–7. The operation is evidently not increasing in favour.

Excluded cases.—I have excluded three cases from the above tables. In two the question of malignancy has not been settled; one died five months after leaving hospital from sudden gastric hæmorrhage; the other, who underwent operation in May, 1907, is still alive and comfortable. The third patient, supposed to have acute gastric trouble, was found at the operation to have a somewhat dilated stomach. A gastro-enterostomy was performed and the patient died the same day. The acute attack was really an incipient pneumonia.

Contrary to what might be expected, there has been no great improvement in results in later years. While the recent non-malignant cases have been slightly more successful, the recent malignant cases have been strikingly more fatal than the earlier cases. In the first half of the non-malignant cases 17 were completely successful and 10 died; while in the second half 20 were completely successful and eight died. In the malignant cases 11 of the earlier ones were successful and 12 unsuccessful, while in the later cases only four were successful and 19 were failures.

ADVISABILITY OF OPERATION.

The above figures may be taken as those of a hospital where the surgery is of a high type but where no attempt has been made to pick cases or to obtain figures for records and for publication. From these and from a general knowledge of the outlook in gastric ulcer and carcinoma I draw thy following conclusions.

Malignant cases.—Any operation which has a mortality

of 46 per cent. within two months requires justification, especially as if successful the pain is almost certain to recur and may be no less severe though deferred. On the other hand, in carcinoma of the pylorus vomiting is frequently as distressing as the pain. The latter can be kept under with morphine; we have no specific drug to combat the former. I have no doubt that gastro-enterostomy in many instances relieves the vomiting even though it does not cure the pain. Taking these points into consideration I should therefore recommend that this operation should not be entertained in non-obstructive growths of the stomach and that in obstructive cases the decision should be left largely to the patient without persuasion and with a definite statement of the risk. In early cases only, especially where there is a doubt as to the malignancy, can I recommend that operation should in any way be pressed. Some of the most successful non-malignant cases have been those operated on with the idea that there was carcinoma.

Non-malignant cases.—Here gastro-enterostomy is an operation which may have extraordinarily good results. Patients whose lives have been a misery to themselves and to their friends may enjoy ease which they never thought possible and from being confirmed invalids may be able to do a full day's work. Any operation where this is the case is worth consideration even if the risk is great.

In considering the advisability of gastro-enterostomy two questions arise. Which cases are mechanically suitable? How soon in the illness should the operation be done? As regards the suitability of cases, I have no doubt that where there is obstruction at the pylorus due to chronic gastric ulcer gastro-enterostomy should be performed. The outlook without operation is hopelessly bad and the condition will become progressively worse; the prospect after operation is good. But one must remember that some cases unaccountably fail; a surgeon with a run of successes will have one occasionally where the symptoms are in no way relieved. A more difficult problem arises where there is chronic ulceration but no definite obstruction. Here, again, the outlook without operation is bad, but the prospect of relief by operation is not so good as in the obstructive cases. But some patients certainly do well and I do not believe that pyloric obstruction is an essential in a case that gastro-enterostomy may give relief. I should, therefore, recommend that the operation should be performed as soon as it becomes evident by repeated relapses that the ulcer will be permanent. I believe that where more than two relapses have taken place in a gastric ulcer a comfortable life is improbable apart from operation. A further problem arises in cases where with the symptoms of chronic gastric ulcer the stomach is found on exploration to be apparently normal, or perhaps to be slightly hypertrophical though no obstruction is apparent. Some cases done at a venture under similar circumstances have done well, and I think that the operation is worthy of trial if the general condition of the patient is good. It is very fatal where there is atonic dilatation with general debility. Though there have not been enough cases of duodenal ulcer in this series on which to base deductions, still the results are so distinctly above the average that I have little doubt that gastro-enterostomy should be performed as soon as it becomes apparent by repeated attacks of the typical dyspepsia, severe enough to prevent the patient efficiently carrying on his employment, that medicine and rest will give no permanent cure. I apply this to non-obstructive as well as to obstructive cases of duodenal ulcer. In looking through all the non-malignant cases there is only one (No. 41) where the symptoms are worse after the operation, and here it is the advance of the disease rather than the treatment which has made the difference.

While it is difficult to say whether earlier operation would have lessened the number of failures I feel certain that it would have materially diminished the number of deaths. The suitable time for operation is that at which a decision is first arrived at that the patient will not recover by medical means so as to enjoy life. Delay adds to the risk, for by constant malnutrition the patient becomes less able to withstand the severe operation. I believe that it lies in the hands of the practitioner and physician to prevent much suffering by handing over to the surgeon chronic cases of gastric ulcer and to do away with much of the risk of the operation of gastro-enterostomy by doing this while the patient is still in good condition.

Manchester.

A CASE OF TRAUMATIC SUBDURAL HÆMATOMA TREPHINED THREE MONTHS AFTER INJURY.

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IN an interesting address on Some Experiences of Intracranial Surgery[1] Mr. Charles Ballance drew attention to the obscurity which may mark the course of cases of subdural hæmorrhage following injury, and to the fact that the condition is certainly remediable by operation. The following case illustrates strikingly the very gradual development of the results of such an injury, the uncertainty which may beset the diagnosis even when the symptoms have become pronounced, and happily also the satisfactory results which may be achieved by operation. The patient was under the care of Dr. Selby W. Plummer of Durham, to whom and to Dr. W. E. Hume I am indebted for notes of the case and for assistance in its investigation.

The patient, a man between 50 and 60 years of age, fell from his bicycle in the early morning of August 9th, 1907, and received a cut on the back of the head on the left side. He lay unconscious for a few minutes and came to himself standing in the midst of a group of workmen who had come to his assistance. The wound was dressed by a surgeon later in the day. It healed readily and the ordinary habits of life and business were not interrupted. But from the date of the accident he felt vaguely ill and suffered from a constant feeling of anxiety and depression. This feeling seems never to have left him, and in a written statement which he has furnished he gives so graphic an account of his condition to the time of his complete breakdown that I am tempted to transcribe the more salient parts of his story. After dwelling on his ever-present anxiety and trouble of mind, he says:

> About the middle of September I had three weeks' leave (the remainder of my annual vacation), the first few days of which I spent with friends in the country. From there I went on a voyage to Hamburg, where I lived on the steamer in one of the harbours. The sea and fresh air did me good, but I still suffered from want of sleep and the ever-recurring feeling of worry and anxiety about anything I had to undertake. I must confess to a constant urging towards suicide; it seemed so easy to drop overboard in the dark and end all my troubles. When I returned to work I began to suffer from pains in the left side of my head, particularly if suddenly startled or confronted with any difficulty in business, which at that time seemed mostly difficulties. My handwriting deteriorated, my signature became difficult. Towards the end of October I began to have great difficulty in shaving owing to loss of power in my right hand; I also found it trying to walk up stairs and hills. I had very constant urgings to pass water and began to suffer from constipation, a very unusual thing with me. I finally broke down on Tuesday, Oct. 29th, on which day I could hardly sign my name and had great difficulty in getting up the hill on my way home. After my collapse my memory is very confused and I have great difficulty in distinguishing between things that really happened and what must have been mere dreams. But I can remember something of most days except the four before Nov. 14th, the day of the operation. These seem a blank, during which I must have suffered much from my head, but all this I have forgotten.

I saw the patient with Dr. Plummer on Nov. 1st. The scar from the wound referred to was insignificant in extent and free from any sign of unhealthy healing. The patient was drowsy and complained of headache. When questioned he seemed to be curiously on his guard as if afraid of saying the wrong thing. He had vomited suddenly several times. There were distinct loss of power in the right hand, so that he could not sign his name, and less distinct paresis of the right leg. I saw him again on Nov. 7th when all his symptoms had increased in gravity. He was more drowsy and breathed stertorously when asleep. When roused he had a pained and puzzled expression and could not find or form the words he evidently wanted. There was right facial paralysis in addition to more marked affection of the arm and leg. Motions and urine had on several occasions been passed in bed. The knee-jerks were absent and there was no ankle clonus or plantar response. The optic discs were congested, with blurred edges. The temperature was slightly raised and the pulse was of moderate rate, not characteristic of cerebral pressure. Two days afterwards a more detailed investigation of the speech mechanism was made. He could speak but not

[1] THE LANCET, Dec. 21st, 1907, p. 1741.

intelligently. Evidently irritated by the chimes of the neighbouring cathedral, he said repeatedly, "I want it disconnected," but could not explain what "it" was. He could not recognise objects handed to him or in the room—at any rate he could not name them. He was able to read aloud from a book but could not repeat consecutively more than three or four words dictated to him. He could not carry out any commands spoken or written.

It will be seen that the signs of pressure widely affecting the left hemisphere were unequivocal, but it was difficult to arrive at any decided opinion as to the precise agent causing the pressure. The long period that had elapsed since the accident, the readiness with which the wound had healed, and the absence of any adhesion of the cicatrix to the bone, or other indication of the bone having suffered damage, and the freedom of the patient from any sign of septic infection, all weighed against the presence of pus. As there had been no sign of compression closely following the injury, and as the case only reached a somewhat abrupt climax three months afterwards, it was not easy to interpret the condition as arising from a hæmorrhage the direct consequence of the accident. The possibility of a gross lesion in the form of a tumour was kept in mind, but the only thing which lent any support to this solution was some vague information as to a deterioration of health and an ill-defined change in the patient previous to the injury. In this case the occurrence of the accident had to be accepted as merely a coincidence. But whatever might prove to be the cause of the pressure the necessity of an exploratory trephining was clear.

The operation was carried out on Nov. 14th. The posterior parietal region was laid bare by a large flap reflected downwards. The cicatrix of the wound was included in the upper and posterior angle of the flap and the underlying bone showed no trace of injury. Three trephine discs were then removed and the intervening piece of bone was cut out with a guarded Gigli saw, so as to expose the upper Rolandic area. The exposed dura mater bulged and looked bluish, and when it was incised a quantity of porter-like fluid gushed out to the estimated amount of five or six ounces. When the exposed dura mater was fully laid open a large cavity extending downwards and forwards and loosely occupied with blood clot came into view. Many portions of the clot were adherent to the under surface of the dura mater (parietal arachnoid); none of the clot adhered to the visceral arachnoid. These adherent portions were scraped away with the sharp spoon and while this was being done it was noticed that the surface of the depressed hemisphere was slowly rising. In no long time it had risen to the normal level. A gauze drain was placed in the subdural space to prevent re-accumulation of fluid and the operation was finished with the suture of the dura mater and the readjustment of the scalp flap. The bone was not replaced.

When the patient was visited by Dr. Plummer in the evening he could answer the ordinary questions correctly; he could move the right leg and to a slight extent the right arm. Day by day thereafter there was a progressive recovery of function. The mental faculties were fully restored, as well as the power of speech and the use of the arm and leg. After a visit to Las Palmas to recuperate his general health he returned to the full discharge of his duties.

The best account of such cases as the foregoing is to be found in an early contribution on "Extravasations of Blood into the Cavity of the Arachnoid," by Prescott Hewett,[2] and in the treatise on Injuries of the Head by the same author in Holmes's "System of Surgery." In the first of these contributions which deals with the pathology of the subject Hewett establishes the frequency of hæmorrhage into the subdural space, and traces the changes which the effused blood may undergo. He shows that these changes are not the result of inflammation; that they begin with the coagulation of the blood and with the natural tendency to the formation of an adventitious membrane encapsuling the clot. Such an encapsuled clot adheres readily to a surface with which it rests in contact—in this instance to the arachnoid surface of the dura mater. Adhesion is speedily followed by organisation through the agency of newly formed blood-vessels which penetrate the adventitious capsule and serve to bind it more intimately to the surface to which it adheres. But these new vessels are fragile and easily ruptured and this fact gives the key to such cases as that under consideration. A hæmorrhage in the first instance may be so slight that the subject of it suffers only a passing disablement. When the resulting clot is becoming organised an incidental rupture of newly formed blood-vessels takes place and a fresh hæmorrhage occurs; and this sequence once started may repeat itself indefinitely. It follows that a hæmorrhage originally small in amount may in the end lead to fatal compression. It resembles an ingravescent apoplexy, only occupying weeks or months in attaining its full development; and the course of the case may be marked by alternations of aggravation and improvement, the first caused by renewal of the hæmorrhage, the latter by absorption of the fluid part of the exudate. Similar pathological changes and an analogous clinical course have been observed in subdural hæmorrhage of idiopathic origin. Such cases are most apt to occur in the insane, the alcoholic, and the phthisical, and these have been the subject of communications in the volumes of the Transactions of the Pathological Society, by Greenfield,[3] Wynne,[4] Newton Pitt,[5] and others.

Returning to the clinical aspects of the subject as dealt with by Prescott Hewett in his treatise on head injuries we find some points which are pertinent to the present history. He points out that "there are no symptoms which will enable us clearly to diagnose an extravasation of blood into the cavity of the arachnoid." Especially is this the case, in his view, with regard to the possibility of discriminating between a hæmorrhage into the cavity of the arachnoid and a collection upon the outer surface of the dura mater. And it illustrates the then position of intracranial surgery that it should be assumed that only under the supposition of the blood being outside the dura mater would the surgeon be led to apply the trephine. For Hewett goes on to say, "Supposing the trephine to have been applied and no blood found between the bone and the dura mater, still the blood in the arachnoid may chance to lie immediately under the spot, and the dura mater of a blue colour may bulge into the trephine hole. Under such circumstances blood in the cavity of the arachnoid has several times been let out and the patient saved." And he adds, "When, however, there are no indications of the blood in the arachnoid being under the trephine hole there is nothing to justify the surgeon in proceeding further." These sentences are of interest in that they depict the attitude of the surgeon towards the dura mater at the time they were written. They show that the surgeon abstained whenever possible from opening the dura mater just as he preferred not to open the peritoneal sac in operating for strangulated hernia. Since then the risks have been almost abolished and as in other departments of surgery intracranial operations frankly undertaken for exploration, frequently issue in the complete restoration of the patient.

Newcastle-on-Tyne.

[2] Medico-Chirurgical Transactions, vol. xxviii., 1845.

[3] Transactions of the Pathological Society, vol. xxix., 1878.
[4] Ibid., vol. xliii., 1892. [5] Ibid., vol. xliii.

A CASE OF SLEEPING SICKNESS TREATED WITH ATOXYL; APPARENT RECOVERY.

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THE following is an account of a case of sleeping sickness; it was first seen during the second stage of lethargy, tremors, and general glandular enlargement, developing later the emaciation and subnormal temperature, with aggravation of the former symptoms, which herald the third and usually fatal stage. This patient, subsequent to a rigid course of atoxyl and mercury treatment, as recommended by Nierenstein, regained full physical and mental health.

The patient was admitted to the Bradford Royal Infirmary, under the care of Dr. H. J. Campbell, on Sept. 7th, 1907. He had resided for three years in Fernando Po and on the Gold Coast and returned to England in April, 1907. He had always been a healthy man until his return from West Africa. There was no history of tubercle or syphilis, his wife being healthy, no miscarriages, and the mother of two healthy children, aged three and four years respectively. At the time of his return he complained of general malaise,

of 46 per cent. within two months requires justification, especially as if successful the pain is almost certain to recur and may be no less severe though deferred. On the other hand, in carcinoma of the pylorus vomiting is frequently as distressing as the pain. The latter can be kept under with morphine; we have no specific drug to combat the former. I have no doubt that gastro-enterostomy in many instances relieves the vomiting even though it does not cure the pain. Taking these points into consideration I should therefore recommend that this operation should not be entertained in non-obstructive growths of the stomach and that in obstructive cases the decision should be left largely to the patient without persuasion and with a definite statement of the risk. In early cases only, especially where there is a doubt as to the malignancy, can I recommend that operation should in any way be pressed. Some of the most successful non-malignant cases have been those operated on with the idea that there was carcinoma.

Non-malignant cases.—Here gastro-enterostomy is an operation which may have extraordinarily good results. Patients whose lives have been a misery to themselves and to their friends may enjoy ease which they never thought possible and from being confirmed invalids may be able to do a full day's work. Any operation where this is the case is worth consideration even if the risk is great.

In considering the advisability of gastro-enterostomy two questions arise. Which cases are mechanically suitable? How soon in the illness should the operation be done? As regards the suitability of cases, I have no doubt that where there is obstruction at the pylorus due to chronic gastric ulcer gastro-enterostomy should be performed. The outlook without operation is hopelessly bad and the condition will become progressively worse; the prospect after operation is good. But one must remember that some cases unaccountably fail; a surgeon with a run of successes will have one occasionally where the symptoms are in no way relieved. A more difficult problem arises where there is chronic ulceration but no definite obstruction. Here, again, the outlook without operation is bad, but the prospect of relief by operation is not so good as in the obstructive cases. But some patients certainly do well and I do not believe that pyloric obstruction is an essential in a case that gastro-enterostomy may give relief. I should, therefore, recommend that the operation should be performed as soon as it becomes evident by repeated relapses that the ulcer will be permanent. I believe that where more than two relapses have taken place in a gastric ulcer a comfortable life is improbable apart from operation. A further problem arises in cases where with the symptoms of chronic gastric ulcer the stomach is found on exploration to be apparently normal, or perhaps to be slightly hypertrophical though no obstruction is apparent. Some cases done at a venture under similar circumstances have done well, and I think that the operation is worthy of trial if the general condition of the patient is good. It is very fatal where there is atonic dilatation with general debility. Though there have not been enough cases of duodenal ulcer in this series on which to base deductions, still the results are so distinctly above the average that I have little doubt that gastro-enterostomy should be performed as soon as it becomes apparent by repeated attacks of the typical dyspepsia, severe enough to prevent the patient efficiently carrying on his employment, that medicine and rest will give no permanent cure. I apply this to non-obstructive as well as to obstructive cases of duodenal ulcer. In looking through all the non-malignant cases there is only one (No. 41) where the symptoms are worse after the operation, and here it is the advance of the disease rather than the treatment which has made the difference.

While it is difficult to say whether earlier operation would have lessened the number of failures I feel certain that it would have materially diminished the number of deaths. The suitable time for operation is that at which a decision is first arrived at that the patient will not recover by medical means so as to enjoy life. Delay adds to the risk, for by constant malnutrition the patient becomes less able to withstand the severe operation. I believe that it lies in the hands of the practitioner and physician to prevent much suffering by handing over to the surgeon chronic cases of gastric ulcer and to do away with much of the risk of the operation of gastro-enterostomy by doing this while the patient is still in good condition.

Manchester.

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IN an interesting address on Some Experiences of Intracranial Surgery[1] Mr. Charles Ballance drew attention to the obscurity which may mark the course of cases of subdural hæmorrhage following injury, and to the fact that the condition is certainly remediable by operation. The following case illustrates strikingly the very gradual development of the results of such an injury, the uncertainty which may beset the diagnosis even when the symptoms have become pronounced, and happily also the satisfactory results which may be achieved by operation. The patient was under the care of Dr. Selby W. Plummer of Durham, to whom and to Dr. W. E. Hume I am indebted for notes of the case and for assistance in its investigation.

The patient, a man between 50 and 60 years of age, fell from his bicycle in the early morning of August 9th, 1907, and received a cut on the back of the head on the left side. He lay unconscious for a few minutes and came to himself standing in the midst of a group of workmen who had come to his assistance. The wound was dressed by a surgeon later in the day. It healed readily and the ordinary habits of life and business were not interrupted. But from the date of the accident he felt vaguely ill and suffered from a constant feeling of anxiety and depression. This feeling seems never to have left him, and in a written statement which he has furnished he gives so graphic an account of his condition to the time of his complete breakdown that I am tempted to transcribe the more salient parts of his story. After dwelling on his ever-present anxiety and trouble of mind, he says:

> About the middle of September I had three weeks' leave (the remainder of my annual vacation), the first few days of which I spent with friends in the country. From there I went on a voyage to Hamburg, where I lived on the steamer in one of the harbours. The sea and fresh air did me good, but I still suffered from want of sleep and the ever-recurring feeling of worry and anxiety about anything I had to undertake. I must confess to a constant urging towards suicide; it seemed so easy to drop overboard in the dark and end all my troubles. When I returned to work I began to suffer from pains in the left side of my head, particularly if suddenly startled or confronted with any difficulty in business, which at that time seemed mostly difficulties. My handwriting deteriorated, my signature became difficult. Towards the end of October I began to have great difficulty in shaving owing to loss of power in my right hand; I also found it trying to walk up stairs and hills. I had very constant urgings to pass water and began to suffer from constipation, a very unusual thing with me. I finally broke down on Tuesday, Oct. 29th, on which day I could hardly sign my name and had great difficulty in getting up the hill on my way home. After my collapse my memory is very confused and I have great difficulty in distinguishing between things that really happened and what must have been mere dreams. But I can remember something of most days except the four before Nov. 14th, the day of the operation. These seem a blank, during which I must have suffered much from my head, but all this I have forgotten.

I saw the patient with Dr. Plummer on Nov. 1st. The scar from the wound referred to was insignificant in extent and free from any sign of unhealthy healing. The patient was drowsy and complained of headache. When questioned he seemed to be curiously on his guard as if afraid of saying the wrong thing. He had vomited suddenly several times. There were distinct loss of power in the right hand, so that he could not sign his name, and less distinct paresis of the right leg. I saw him again on Nov. 7th when all his symptoms had increased in gravity. He was more drowsy and breathed stertorously when asleep. When roused he had a pained and puzzled expression and could not find or form the words he evidently wanted. There was right facial paralysis in addition to more marked affection of the arm and leg. Motions and urine had on several occasions been passed in bed. The knee-jerks were absent and there was no ankle clonus or plantar response. The optic discs were congested, with blurred edges. The temperature was slightly raised and the pulse was of moderate rate, not characteristic of cerebral pressure. Two days afterwards a more detailed investigation of the speech mechanism was made. He could speak but not

[1] THE LANCET, Dec. 21st, 1907, p. 1741.

intelligently. Evidently irritated by the chimes of the neighbouring cathedral, he said repeatedly, "I want it disconnected," but could not explain what "it" was. He could not recognise objects handed to him or in the room—at any rate he could not name them. He was able to read aloud from a book but could not repeat consecutively more than three or four words dictated to him. He could not carry out any commands spoken or written.

It will be seen that the signs of pressure widely affecting the left hemisphere were unequivocal, but it was difficult to arrive at any decided opinion as to the precise agent causing the pressure. The long period that had elapsed since the accident, the readiness with which the wound had healed, and the absence of any adhesion of the cicatrix to the bone, or other indication of the bone having suffered damage, and the freedom of the patient from any sign of septic infection, all weighed against the presence of pus. As there had been no sign of compression closely following the injury, and as the case only reached a somewhat abrupt climax three months afterwards, it was not easy to interpret the condition as arising from a hæmorrhage the direct consequence of the accident. The possibility of a gross lesion in the form of a tumour was kept in mind, but the only thing which lent any support to this solution was some vague information as to a deterioration of health and an ill-defined change in the patient previous to the injury. In this case the occurrence of the accident had to be accepted as merely a coincidence. But whatever might prove to be the cause of the pressure the necessity of an exploratory trephining was clear.

The operation was carried out on Nov. 14th. The posterior parietal region was laid bare by a large flap reflected downwards. The cicatrix of the wound was included in the upper and posterior angle of the flap and the underlying bone showed no trace of injury. Three trephine discs were then removed and the intervening piece of bone was cut out with a guarded Gigli saw, so as to expose the upper Rolandic area. The exposed dura mater bulged and looked bluish, and when it was incised a quantity of porter-like fluid gushed out to the estimated amount of five or six ounces. When the exposed dura mater was fully laid open a large cavity extending downwards and forwards and loosely occupied with blood clot came into view. Many portions of the clot were adherent to the under surface of the dura mater (parietal arachnoid); none of the clot adhered to the visceral arachnoid. These adherent portions were scraped away with the sharp spoon and while this was being done it was noticed that the surface of the depressed hemisphere was slowly rising. In no long time it had risen to the normal level. A gauze drain was placed in the subdural space to prevent re-accumulation of fluid and the operation was finished with the suture of the dura mater and the re-adjustment of the scalp flap. The bone was not replaced.

When the patient was visited by Dr. Plummer in the evening he could answer the ordinary questions correctly; he could move the right leg and to a slight extent the right arm. Day by day thereafter there was a progressive recovery of function. The mental faculties were fully restored, as well as the power of speech and the use of the arm and leg. After a visit to Las Palmas to recuperate his general health he returned to the full discharge of his duties.

The best account of such cases as the foregoing is to be found in an early contribution on "Extravasations of Blood into the Cavity of the Arachnoid," by Prescott Hewett,[2] and in the treatise on Injuries of the Head by the same author in Holmes's "System of Surgery." In the first of these contributions which deals with the pathology of the subject Hewett establishes the frequency of hæmorrhage into the subdural space, and traces the changes which the effused blood may undergo. He shows that these changes are not the result of inflammation; that they begin with the coagulation of the blood and with the natural tendency to the formation of an adventitious membrane encapsuling the clot. Such an encapsuled clot adheres readily to a surface with which it rests in contact—in this instance to the arachnoid surface of the dura mater. Adhesion is speedily followed by organisation through the agency of newly formed blood-vessels which penetrate the adventitious capsule and serve to bind it more intimately to the surface to which it adheres. But these new vessels are fragile and easily ruptured and this fact gives the key to such cases as that under consideration. A hæmorrhage in the first instance may be so slight that the subject of it suffers only a passing disablement. When the resulting clot is becoming organised an incidental rupture of newly formed blood-vessels takes place and a fresh hæmorrhage occurs; and this sequence once started may repeat itself indefinitely. It follows that a hæmorrhage originally small in amount may in the end lead to fatal compression. It resembles an ingravescent apoplexy, only occupying weeks or months in attaining its full development; and the course of the case may be marked by alternations of aggravation and improvement, the first caused by renewal of the hæmorrhage, the latter by absorption of the fluid part of the exudate. Similar pathological changes and an analogous clinical course have been observed in subdural hæmorrhage of idiopathic origin. Such cases are most apt to occur in the insane, the alcoholic, and the phthisical, and these have been the subject of communications in the volumes of the Transactions of the Pathological Society, by Greenfield,[3] Wynne,[4] Newton Pitt,[5] and others.

Returning to the clinical aspects of the subject as dealt with by Prescott Hewett in his treatise on head injuries we find some points which are pertinent to the present history. He points out that "there are no symptoms which will enable us clearly to diagnose an extravasation of blood into the cavity of the arachnoid." Especially is this the case, in his view, with regard to the possibility of discriminating between a hæmorrhage into the cavity of the arachnoid and a collection upon the outer surface of the dura mater. And it illustrates the then position of intracranial surgery that it should be assumed that only under the supposition of the blood being outside the dura mater would the surgeon be led to apply the trephine. For Hewett goes on to say, "Supposing the trephine to have been applied and no blood found between the bone and the dura mater, still the blood in the arachnoid may chance to lie immediately under the spot, and the dura mater of a blue colour may bulge into the trephine hole. Under such circumstances blood in the cavity of the arachnoid has several times been let out and the patient saved." And he adds, "When, however, there are no indications of the blood in the arachnoid being under the trephine hole there is nothing to justify the surgeon in proceeding further." These sentences are of interest in that they depict the attitude of the surgeon towards the dura mater at the time they were written. They show that the surgeon abstained whenever possible from opening the dura mater just as he preferred not to open the peritoneal sac in operating for strangulated hernia. Since then the risks have been almost abolished and as in other departments of surgery intracranial operations frankly undertaken for exploration, frequently issue in the complete restoration of the patient.

Newcastle-on-Tyne.

[2] Medico-Chirurgical Transactions, vol. xxviii., 1845.

A CASE OF SLEEPING SICKNESS TREATED WITH ATOXYL; APPARENT RECOVERY.

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THE following is an account of a case of sleeping sickness; it was first seen during the second stage of lethargy, tremors, and general glandular enlargement, developing later the emaciation and subnormal temperature, with aggravation of the former symptoms, which herald the third and usually fatal stage. This patient, subsequent to a rigid course of atoxyl and mercury treatment, as recommended by Nierenstein, regained full physical and mental health.

The patient was admitted to the Bradford Royal Infirmary, under the care of Dr. H. J. Campbell, on Sept. 7th, 1907. He had resided for three years in Fernando Po and on the Gold Coast and returned to England in April, 1907. He had always been a healthy man until his return from West Africa. There was no history of tubercle or syphilis, his wife being healthy, no miscarriages, and the mother of two healthy children, aged three and four years respectively. At the time of his return he complained of general malaise,

[3] Transactions of the Pathological Society, vol. xxix., 1878.
[4] Ibid., vol. xliii., 1892. [5] Ibid., vol. xliii.

with occasional feverish attacks; lately he had become very lethargic, unwilling to exert himself, and mentally somewhat dull and apathetic. He had frequent backache and supra-orbital headache. He appeared to be a quiet, somnolent, emaciated man, with a heavy, slightly anxious expression. He required to be aroused before he answered questions; his replies were delayed. He estimated time incorrectly, placing the events of the previous week as a few hours past. He had forgotten that he was ever in Africa. After laborious computation he added and subtracted single figures; he failed entirely with double numbers. In multiplication he showed a curious and persistent error, always using a multiplicand one less than that given to him—thus, for example, making 4 by 12 equal 44; 2 by 9 equal 16. He said he was perfectly well, that he required rest, and relapsed into lethargy when left alone. The knee, Achilles, biceps, triceps, supinator, extensor, and flexor of wrists and jaw-jerks were all exaggerated. On eliciting either knee-jerk a response was obtained in the other leg. The plantar response was very active and flexor in both feet. The cremaster, abdominal, and epigastric reflexes were faint; the corneal, palatal, and bulbo-cavernosus were active. There was no incontinence of urine or fæces on admission. The eyes showed equal pupils, regular in outline and slightly dilated, they reacted to light and for accommodation; no strabismus was present; there was slight jerkiness of outward rotation, no actual nystagmus; convergence was good; there was no lagophthalmos and the fundi were quite normal. Hearing was acute; the right membrane was slightly congested. Speech was slow and slightly thick or mumbling, response to questions being very slow. The response to touch was normal over the chest, abdomen, and upper arms; hypersensitive over the forearms and feet. Pain was somewhat difficult to determine; there were distinct areas of hyperæsthesia over the body and limbs. Heat and cold were accurately discriminated. Considerable incoördination of hands and feet was shown. The gait was slow, the patient shoving his feet along the floor. No Rombergism was present; there was a very slight degree of heel-stamping. Marked myotatic irritability was present. Emaciation was general and equal on either side. The thighs measured 11½ inches, the upper arms 8 inches; the other measurements were similarly reduced. The weight was 5 stones 9 pounds and the height was 5 feet 6 inches. The inguinal, axillary, intercostal, supraclavicular, submaxillary, and concatenate glands were all enlarged; there was interscapular dulness to percussion over the mediastinal glands. In the right groin one of the glandular masses was swollen, red, and painful. The thyroid was not enlarged. The blood was anæmic; the red cells numbered 3½ millions per cubic millimetre; the whites numbered 6500; polymorphs, 51 per cent.; lymphocytes, 29 per cent.; large mononuclears, 15 per cent.; and eosinophiles, 5 per cent. There was slight poikilocytosis; the hæmoglobin was 60 per cent. The heart was slightly dilated; there were systolic, functional, mitral and pulmonary bruits. The lungs were healthy; there was dulness to percussion over the mediastinum posteriorly, probably due to enlarged glands. The Calmette ophthalmo-reaction was negative. The abdomen was tumid and slightly resistant. The spleen was enlarged, the vertical axillary diameter being 6 inches and the horizontal diameter 5 inches. The vertical diameter of the liver in the mid-clavicular line was 6 inches. The urine had a faint trace of pus and albumin but was otherwise normal. The skin was dry, somewhat papular, showing patches of erythema in places; considerable itching was felt. On admission the temperature was 97° F., the pulse was 84, and the respirations were 24.

The patient was put upon a liberal diet of chicken, veal, and other white meats with two pints of milk in the day. As his condition might possibly have been due to the effects of syphilis he was given potassium iodide grains 40, and liquor hydrargyri perchloridi minims 60, four times daily, and this was continued until Sept. 28th, the patient bearing the drugs well but showing no improvement in his condition. He required to be roused at meal times but took whatever food was given well. On Sept. 14th incontinence of urine and fæces had occurred several times; there was considerable mucus in the stools. His weight was now 5 stones 9 pounds, showing no loss. Slight pyrexia of two days' duration occurred, the highest temperature being 99·8°. His general condition was unchanged. On the 18th he had had a pyrexial attack of four days' duration, the highest temperature being 102·4°. No rigors occurred. Twitching of the left arm and leg had appeared, which increased on voluntary movement. The albumin had disappeared from the urine. Lumbar puncture was performed on the second day of the pyrexia; there was a marked lymphocytosis but the trypanosoma was not detected. The patient was greatly collapsed subsequent to the puncture and the needling was not repeated. On the 25th the following note was taken: "During the past week the tremors have become general; they are now most marked on the right side. The knee-jerks are greatly increased and a crossed reflex is given. The gland in the right groin is discharging. On excising a gland from the groin numerous cocci were found but no trypanosomes were discovered. Occasional retention of urine necessitated catheterisation. Rigidity of neck and limbs was present at times. There were emotional outbursts when sore was dressed."

The condition was now diagnosed as sleeping sickness on the following grounds. Syphilis was excluded by the absence of history, the healthiness of the wife and children, and lack of response to three weeks' vigorous anti-specific treatment. The cerebral symptoms of general paralysis were wanting. The reflexes, gait, and history negatived tabes. Tubercle bacilli were not present in the urine, sputum, spinal fluid, or gland excised; the Calmette test was negative. Uræmia was discounted by the rapid return to normal of the urine, the absence of œdema, papillitis, arterio-sclerosis, and other symptoms of chronic renal disease. On the other hand, we had the definite West African history. The mental and physical lethargy agreed with the accounts of Laveran, Bruce, Nabarro, and Greig. The general gland enlargement, together with the pathological condition of the one excised, agreed with the reports of Bettencourt and Mott, who lay stress on these points. The unstable emotions, the tremors, fibrillary and general, increased on voluntary movement, and their occasional epileptiform character, the rigidity of the neck and other muscles at times, the areas of hyperæsthesia, all agreed with these and other observers. The skin showed the changes marked by Dupont and Low.

The question of not having found the trypanosoma arises; the spinal fluid was only examined once and that during an attack of pyrexia; this, according to Moffat, is a most unfavourable time. In cases reported by such observers as Dutton, Todd, Christy, Broden, Dupont, and Dias they failed to find the organism. Kudicke in one of his cases found it only after inoculating a monkey. According to Nabarro the previous drug history could have accounted for the absence of the organism in the spinal fluid; he also suggests the probability of a periodicity in its appearances necessitating constant examinations. At the time we were not acquainted with the importance of frequent gland puncture. According to Mott's reports the glands which he examined contained pyogenic organisms such as were present in this case.

In view of the favourable results of Thomas and Breinl we decided to treat this case with injections of atoxyl, and from Sept. 25th to Oct. 2nd inclusive a solution of atoxyl was injected every four hours in increasing daily doses of from 1 to 5 grains. On Oct. 5th it was decided to adopt the more recent combined atoxyl and mercury treatment of Moore, Nierenstein, and Todd. On the first day 16 minims of saturated watery solution of atoxyl were to be injected into the basilic vein, on the three succeeding days 32 minims were to be similarly injected, after one day without treatment intermuscular injections of 32 minims of 2 per cent. hydrargyri perchloridum were to be given for three days, then—after a suitable interval—the eight-day course of treatment was to be repeated. On the 6th, at the commencement of this scheme of treatment, the condition was as follows. The lethargy and drowsiness had increased greatly; he was quite incontinent and required to be fed by the nurse; tremors were constantly present; there was considerable head retraction; there were bed-sores over the sacrum, left shoulder, and iliac crest; the mouth was foul; the face was drowsy, heavy-lidded look, with wrinkled forehead; when aroused he could answer questions only after long delay and intense mental exertion. The temperature had become subnormal and remained so until Dec. 3rd. The weight was reduced to 5 stones 4 pounds. The patient was on a water-bed and was fed four-hourly. The temperature was 97°, the pulse was 88, and the respirations were 24. On Oct. 13th (the date of the completion of the first course of injections) he continued incontinent; the bed-sores were stationary. He was a little brighter at times during the day. The tremors and head retraction continued. The

weight had gone down to 5 stones 3 pounds. The temperature was 97° and the pulse was 96. On the 16th the second course of injections was commenced. From this date we employed half the former dosage. During the night the patient was very collapsed and 5 minims of strychnine were injected every three hours. On the next day the patient was so collapsed that his wife, who was with him, came to the sister of the ward and reported her husband as having died. The crossing of the knee-jerks had disappeared; the other reflexes were less active. On the 28th the third course was commenced. The patient was extremely weak and emaciated, his weight being 4 stones 13 pounds. He cried and moaned piteously when being attended to. Retention of urine had again occurred several times and the catheter had been required. The temperature was 97·6° and the pulse was 92. On Nov. 12th the patient had improved. He was brighter and took a little interest in his surroundings. The bedsores were healing; the glands were smaller; the tremors were less frequent. Continence was definitely re-established on this date. Mental effort continued to be difficult and replies were delayed. His weight was 5 stones 2 pounds. On the 16th the fourth course of injections was commenced. Progress continued. On the 29th the fifth course of injections was commenced. There was continued steady improvement, the tremors had ceased, the glands were steadily decreasing, the sores had healed, and lethargy was gradually getting less. He had been wheeled about the ward in an invalid chair during the past week. His weight had risen to 6 stones. The temperature was 98 and the pulse was 88.° On Dec. 14th the sixth course of injections was begun. The progress was steady towards recovery. The glands were almost impalpable; the skin was smooth and healthy. Replies were a little delayed but he could do simple problems in arithmetic correctly. He read a little and could play dominoes with the other patients; he was soon tired with these efforts and slept a good deal. The temperature had risen to normal with an occasional evening rise to 99°. His weight was 6 stones 10 pounds. On Jan. 4th, 1908, the seventh and last course of injections was commenced. The patient was alert and intelligent when questioned, giving a clear account of his African experiences; his weight was now 7 stones 9 pounds.

From this period till his departure to the convalescent home on Feb. 13th, the patient's condition steadily improved. All traces of glandular enlargement had disappeared, including the interscapular dulness; his reflexes were normal; no tremor was shown. During the day he went long walks and assisted in the work of the ward, his appetite was good, and his sleep at night was sound and refreshing. His weight went steadily up to 8 stones 7 pounds. In every way he was an impressive contrast to the emaciated wreck covered with sores and shaken by tremors of three months previously. During the last month he took cod-liver oil, quinine, and iron, no further injections being given. He was warned to report immediately any relapse to his medical adviser, but so far he has not returned to the hospital.

It only remains to express my deep obligations to Dr. Campbell for the freedom he allowed me in making the above observations; for these and other courtesies innumerable, while I had the privilege of being his house physician, I am more than grateful.

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WARSAW UNIVERSITY.—The Warsaw correspondent of the *Times* states that the University, which has been closed since 1905, was opened on Sept. 14th. Of the 600 students who have entered only 38 are Poles, the rest being Russians and Jews. This is due to the fact that the Government refused to allow the University to be "polonised," and the Poles thereupon resolved to boycott it.

AN UNUSUAL TYPE OF LEUKÆMIA COMPLICATED BY SYNOVITIS IN A YOUTH THE SUBJECT OF ICHTHYOSIS.

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OUR knowledge of the causation of the various conditions comprised under the respective terms leukæmia and pernicious anæmia and of the relation of these affections to one another is so unsatisfactory that little apology is needed for recording at some length a case which serves to illustrate this relationship and at the same time presents other points of interest which may perhaps have a bearing on our conception of these diseases and of their possible connexion with infective processes on the one hand or with malignant disease on the other. Between a well-marked case of idiopathic pernicious anæmia with great diversity in form and size of erythrocytes, great diminution in their number, high colour index, presence of nucleated red cells, and diminution in the number of leucocytes in the blood and a case of lymphatic leukæmia with anæmia of secondary type, great increase in the number of lymphocytes in the blood, and aggregations of similar cells in the internal organs intermediate forms are met with in which, during life at least, considerable difficulty may arise in determining to which category they belong. For whilst on the one hand a relative increase of the lymphocytes is usual in pernicious anæmia, on the other certain cases of leukæmia, to which the term "aleukæmic" has been applied, present no excess of leucocytes in the blood. Further, in certain of the acute forms of lymphatic leukæmia no enlargement of lymphatic glands occurs (suggesting that such enlargement when present is secondary rather than primary) and not only normoblasts but also megaloblasts may be present in the blood stream. Again, symptoms of leukæmia and of pernicious anæmia may be combined in the same patient and it is for such cases that Leube has suggested the term leukanæmia. Most authorities agree that all the phenomena, including the blood picture, of pernicious anæmia may be consecutive to ankylostomiasis, atrophy or carcinoma of the stomach, bothriocephalus latus, &c., and perhaps the most reasonable way of looking at those cases of leukæmia which present symptoms of pernicious anæmia is to regard the latter as secondary to the leukæmic just as it may be to the other conditions mentioned.

In the following case, though undoubtedly one of leukæmia, it is significant that the anæmia was extreme, that both normoblasts and megaloblasts were present in the blood, that the total number of leucocytes was not increased (though this is perhaps discounted by the fact that there was not only a relative but also an *actual* increase of non-granular cells), and that free iron was present in the liver.

The patient, aged 20 years, single, was admitted into the Royal United Hospital, Bath, under the care of Dr. G. A. Bannatyne, on March 16th, 1907, complaining of pains in the limbs, especially in the neighbourhood of the joints. The pain was first felt in September, 1906, in the back and legs. In October he consulted a medical man and after taking two bottles of medicine the pains became less severe. A few weeks later they returned and persisted until his admission to hospital. In December he had a severe attack of nose bleeding. About the beginning of January, 1907, he noticed, for the first time, some lumps in his neck near the jaw. Three weeks before admission he had another but less severe bleeding from the nose. His skin had been harsh and scaly as long as he could remember, but no history of a like condition of skin in any other member of the family could be obtained. There was nothing in his personal or family history suggestive of syphilis and he presented none of the stigmata of that affection. On admission he was profoundly anæmic, his face being of a dirty yellowish hue. The skin over the upper part of the forehead and over both parotid regions was very scaly. The scalp was dry and scurfy, the hair being lank and lustreless; there was a little very fine hair on the upper lip and chin. There was slight eversion of the lower eyelids. The trunk, especially the abdomen, was covered with thick, horny, epidermal plaques, of a dirty greenish-yellow or brown colour. The skin was very hard and thickened and felt rough and harsh, like that

of a dog-fish, and there was absence of sweat. This condition also affected the upper arms and to a less degree the forearms—the flexor surfaces rather more than the extensor. The hands were not so much affected but the skin was dry and inelastic, and the nails were atrophic and curved over the finger-tips. The lower limbs were similarly affected, the thighs more than the legs, and the flexor more than the extensor surfaces; there was a good deal of keratosis on the feet. Enlarged lymphatic glands could be felt in front of and behind the ears, behind the angle of the jaw, in the submaxillary and submental regions, in front of and behind the sterno-mastoids, below the occiput, in the axillæ, one over the second left rib, above the internal condyle of the humerus on each side, and in the groins. The glands were of moderate hardness, separate, and somewhat tender on pressure. There was slight beading of the ribs. The limbs were much wasted and the legs appeared tender on pressure. The tibiæ were bowed antero-posteriorly and the shins were thick and rounded but there was no pain on percussion of the bones. Both knee-joints were distended with fluid and fluctuation and patella-tapping were readily elicited; the overlying skin was not reddened but there was increase of heat. The knee-jerks were present and the plantar reflexes were normal. There was no retinitis. The mucous membrane of the tongue and the inside of the mouth was pale but otherwise normal; there was no gingivitis or evidence of oral sepsis; the tonsils were large and pale. A systolic murmur was audible over the heart. The spleen was enlarged and hard; the liver could not be felt. The patient was lethargic and his intelligence was, and always had been, below normal.

Whilst in hospital the patient's temperature oscillated as a rule between 99° and 100° F.; on two occasions it rose to between 101° and 102°. His pulse on admission was 136; it was 124 on the following day but afterwards kept between 100 and 112. The bowels acted daily and the motions were somewhat loose but otherwise natural. The amount of urine varied between 34 and 54 ounces daily: it was acid in reaction, of specific gravity 1012 to 1015, contained no sugar, and on only one occasion out of five a faint trace of albumin. He weighed 5 stones 9 pounds. Examinations of the blood were made as follows: March 17th, red cells, 1,152,000 per cubic millimetre; leucocytes, 6200; March 18th, red cells, 1,184,000 per cubic millimetre; leucocytes, 6000 in the following proportions:—

"Mononuclears"	4320 per c.mm.	=	72·0 per cent.
Large lymphocytes	370 ,, ,,	=	6·1 ,, ,,
Small lymphocytes	380 ,, ,,	=	6·3 ,, ,,
Polymorphonuclears	720 ,, ,,	=	12·0 ,, ,,
Transitionals	170 ,, ,,	=	2·8 ,, ,,
Myelocytes	40 ,, ,,	=	0·6 ,, ,,

No basophiles or eosinophiles. Two normoblasts and two megaloblasts in counting 600 leucocytes. March 26th, red cells, 1,107,000 per cubic millimetre; leucocytes = 7000 in the following proportions:—

"Mononuclears" and large leucocytes ...	5868 per c.mm.	=	83·8 per cent.
Small lymphocytes	361 ,, ,,	=	5·1 ,, ,,
Polymorphonuclears	606 ,, ,,	=	8·6 ,, ,,
Transitionals	127 ,, ,,	=	1·8 ,, ,,

One myelocyte and one normoblast in counting 600 cells; no basophiles or eosinophiles.

In all films examined there was much poikilocytosis. A few erythrocytes were polychromatophilic, but no basophile granules were seen. Variation in size of the red cells was not so marked as is usual in pernicious anæmia and the average size was perhaps rather less than normal. By a regrettable oversight the hæmoglobin estimations were not recorded. The cell which has been termed "mononuclear" had the following characters. It was spherical and varied much in size. Commonly about 12 μ in diameter, some were considerably larger and a few smaller than this. The nucleus generally filled the cell, but in some instances a narrow segment of protoplasm, containing no granules and stained pale pink with Ehrlich's triacid mixture, was to be seen at one part of the circumference. The nucleus stained deeply but not evenly of a dull slate-blue colour, very different from the light bluish-green of the lymphocytes. Forms intermediate between these cells and lymphocytes and many atypical finely granular eosinophiles were met with. With Leishman's stain no distinction between these mononuclear cells and lymphocytes was possible. Whether this cell should be regarded as a member of the lymphocyte series or as a non-granular myelocyte or even as a still more alien invader of the blood stream it is difficult to say, though on the whole perhaps the first is most probable.

The swelling of the patient's knees diminished whilst he lay in hospital but the lymphatic glands, notably those around the jaw, increased in size and became more tender. On March 30th, a fortnight after admission, death occurred rather suddenly, being preceded for a short time by restlessness and dyspnœa. An examination of the body was made about 12 hours later. The following account is taken from the post-mortem register:—

Body very wasted. P.M. rigidity present. No P.M. staining. Skin everywhere very dry and harsh with, in parts, lumps of adherent thick brownish yellow scales; these are most marked on the back, axillæ, groins, anterior abdominal wall, and backs of the knees. Subcutaneous and omental fat practically *nil*. No perirenal fat. Muscles pale and watery looking. Blood watery and appears to be less in amount than normal.

Lymphatic glands: The pre-auricular, cervical, epitrochlear, and axillary glands enlarged. A mass of enlarged glands in the superior mediastinum and two over the lower part of the pericardium. The mesenteric glands not enlarged but those in the lesser omentum and along the portal vein and head of the pancreas markedly so. All the groups of inguinal glands enlarged and a chain of big glands extended along the iliac vessels and lumbar spine to the pancreas. The affected glands were greyish white and rather firmer than normal. Many were round or oval and as large as haricot beans and filberts, though some were as large as walnuts and a few were discoid and of the area of a five-shilling piece. On section they were white and showed no evidence of softening.

Brain, 46 ounces. Pale, otherwise normal. Pineal and pituitary bodies normal. Pericardium healthy. Heart, 9 ounces; no tabby-cat striation; no valvular disease; one small patch of atheroma on anterior cusp of mitral valve; no atheroma thoracic or abdominal aorta. Thymus not persistent. Thyroid normal. Tonsils enlarged. Pleuræ healthy, no adhesions or increase of fluid. Lungs: upper lobes very pale; lower lobes red, congested, gelatinous looking; contained air; floated in water. Stomach distended; contained a fair quantity of greenish semi-digested food. Intestines: solitary follicles white and prominent; Peyer's patches not swollen. Liver, 66 ounces, not obviously diseased. Gall-bladder normal; contained bile of normal appearance. Spleen, 14 ounces; enlarged; normal colour and consistence; bright red on section; a spleniculus of the size of a marble was found. Left kidney, 11 ounces, enlarged in all diameters; more wedge shaped than normal adult kidney; very pale; capsule slightly adherent. No trace of right kidney to be found. The right suprarenal capsule appeared normal except for the presence in the medulla of a few white patches evidently of the same substance as that of which the enlarged lymphatic glands were composed; in the left suprarenal the whole medulla had undergone transformation into white brain-like material. Pancreas, 4 ounces; normal.

Knee-joints contained an increased quantity of pale-yellow synovia rather more fluid than normal. The synovial membrane was soft, thickened, and injected. The tibiæ showed a slight bend with the convexity forwards at the juncture of the middle and lower thirds; the margins of the bone were rounded off; the medullary canal of the femur and tibia contained firm pale-pink marrow, with one or two patches of white deposit and a few small hæmorrhages. Smears of the marrow showed that it consisted almost entirely of lymphocytic cells.

The liver gave a well-marked blue colour with potassium ferrocyanide and hydrochloric acid, the kidney a greenish blue and the spleen a dark slate colour. Neither liver, kidney, nor spleen gave the amyloid reaction with iodine.

Microscopically sections of the skin showed that the stratum corneum was greatly thickened; there was much pigment in the deeper layer of the stratum Malpighii and spots of pigment in the superficial layers of the corneum, the connective tissue of which appeared denser and coarser than normal; the coil glands and hair follicles did not appear abnormal, but the sebaceous glands were ill-marked and appeared compressed. Sections of the lymphatic glands showed a mass of cells resembling lymphocytes closely packed together; almost complete disappearance of the stroma of the gland and all distinction between germ centres and lymph channels lost. The spleen presented a similar appearance but the amount of supporting tissue was much greater. Leukæmic deposits were present in the kidney and adrenals; in the liver the portal spaces were packed with lymphocytes which extended thence in the form of strands amongst the liver cells. The pancreas, thyroid, and tonsils appeared natural. Sections of the synovial membrane of the knee showed just beneath the endothelium a sharply defined continuous layer of leukæmic deposit rather more than 0·05 mm. in depth; deeper in the synovial membrane were some scattered patches of lymphocytes mainly in the neighbourhood of the blood-vessels.

The chief points of interest in this case may be summarised as follows: 1. The presence of ichthyosis, unusual in that the flexor surfaces were implicated to a greater extent than the extensor. 2. The supervention of a condition of leukæmia characterised by deposits of lymphocytic cells in the lymphatic glands, bone marrow, spleen, liver, kidney, and elsewhere, but anomalous in the profundity of the anæmia, the absence of increase in the total number of leucocytes in the blood, and in the presence of free iron in the liver and spleen. 3. The occurrence of a symmetrical synovitis of the knee-joints due to a leukæmic invasion of the synovial membrane. 4. The fact that the patient had only one kidney.

In conclusion, I must thank Dr. Bannatyne for permission to report this case which was under his care at the hospital;

Mr. A. R. Beaumont, the house physician, for the notes which he took; Mr. R. E. Moorhead for kindly supplying me with details of the family history; and Mr. W. G. Mumford for most valuable assistance at the post-mortem examination.
Bath.

A CASE OF SEVERE VERTIGO AND TINNITUS; DESTRUCTION OF THE LABYRINTH; CURE.

BY MACLEOD YEARSLEY, F.R.C.S. ENG.,
SENIOR SURGEON TO THE ROYAL EAR HOSPITAL; MEDICAL INSPECTOR OF DEAF SCHOOLS, LONDON COUNTY COUNCIL (EDUCATION), ETC.

THE following case is, I believe, the ninth operation of its kind for the relief of distressing vertigo or tinnitus, or both, excluding those in which successful or unsuccessful attempts have been made to divide the auditory nerve.

The patient, a clergyman, aged 47 years, consulted me on Oct. 15th, 1907. His history was as follows. As an infant he had suffered from otorrhœa on both sides but his ears had been entirely free from discharge for over 18 years. He had always been a little deaf and for nearly 12 months he had not been able to hear his own voice. Previously to that he had been able to hear with an ear-trumpet. Deafness had been complete for seven weeks. 12 years ago he had two attacks of vertigo, the first occurring whilst he was conducting service. His health was much impaired at that time from overwork. He took a sea-voyage and was better for four years. His health again broke down and his deafness became worse, but he did not then suffer from vertigo. For the past three years he had suffered from continuous tinnitus of a roaring, machinery-like character, with attacks of vertigo about every six weeks. From May, 1907, the vertigo had become more frequent and more severe. It had been much worse during the six weeks before consultation, whilst the tinnitus was becoming "unbearable." At different times he had consulted five well-known aural surgeons and had taken a variety of drugs, including asafœtida, strychnine, bromides (until a bromide rash appeared), &c. As family history it was stated that both his grandfathers were deaf, his mother was slightly deaf, and his father suffered from vertigo at the age of 30 years.

Present condition.—The patient was a stout man, below middle height, plethoric, and suffered a good deal from constipation. He had two severe attacks of vertigo whilst in the consulting-room, in which the head was turned strongly to the left, the body was thrown back, and the eyes were closed, the eyeballs being directed to the left. There was no loss of consciousness. He stated that the attacks were specially induced by looking up or turning the head suddenly to either side, that he felt as if he would fall to the left, and that there was apparent movement of objects towards the right. He also volunteered that the tinnitus was much worse before an attack of vertigo. Both tympanic membranes were much thickened and indrawn; the left showed some loss of mobility to the Siegle pneumatic speculum. There was considerable chronic hypertrophic pharyngitis, with some hypertrophy of the tonsils. The nasal septum was deflected to the right. The only signs of any hearing power that could be elicited by careful functional testing were that with the right ear he could count the strokes of the bell at ten feet and could detect the sound of the Edelmann-Galton whistle between 4000 and 5000 vibrations. The urine was acid, of specific gravity 1015, and contained no albumin or sugar. Dilute hydrobromic acid, half a drachm, with sulphate of quinine, one grain, three times a day, was ordered, together with one grain of calomel every night.

On Oct. 29th there had been no attacks of vertigo for over a week. The week before there were six attacks, two of great severity. The patient complained of occasional "swimming in the head" and much "buzzing" in the morning, with a sense of intense weakness. There was no hearing.

Having been granted six months' leave from all duty the patient stayed until Christmas at Brighton where he had only one slight attack on Nov. 23rd, although there had been a slight dizziness from time to time. I saw him again on Dec. 31st, when he stated that his tinnitus had been constant in the left ear for the past week, that he had had a slight attack of vertigo on Dec. 26th, three similar attacks on the 28th, and four on the 30th. He had been sleeping badly for several nights and his tinnitus had been very severe until the morning of the 31st, when he had a bad fit of vertigo in which he was "convulsed," after which the noises ceased. He returned home, but not to work, and was ordered 4 minims of liquor strychninæ with 1 drachm of dilute hydrobromic acid three times a day, and 2 grains of cascara every night.

Owing to the constipation from which he suffered the patient came to London on Jan. 6th and underwent a fortnight's abdominal massage which greatly improved the condition of his digestive organs. He also learned lip-reading, in which he speedily became very proficient. He remained in London until Feb. 26th, during which time he had slight giddiness daily and severe attacks of vertigo on two occasions. He returned to his vicarage on Feb. 26th and from that time his tinnitus and vertigo became steadily worse. On March 4th he had four severe attacks of vertigo. On March 14th a tape seton was inserted after the method of Wilson Parry,[1] but this treatment did not appear to have any effect upon his tinnitus or vertigo. The former became "unbearable," and he had between 40 and 50 attacks of the latter of varying severity between March 4th and April 30th.

As the patient was becoming very disheartened the question of operation with a view to destroying the left labyrinth was discussed. Recourse to such a measure had been suggested but I purposely delayed urging it until other methods had been tried. On May 19th he was seen in consultation by my colleague, Mr. R. Lake. On that occasion it was found that the use of the Siegle speculum on the left side caused vertigo and that movement to the left on a turntable at once elicited vertigo which was accompanied by very slight left lateral nystagmus. With the heels together and the eyes closed he swayed to the left. The results of functional tests were as follows: Bone conduction to all forks on both sides was *nil*. By air conduction there was perception only to C^2 (512), C^3 (1024), and C^4 (2048). With the continuous tone whistle he heard from a^2 to a^3 but missed c_4 sharp. He was quite unable to hear the voice. As Mr. Lake agreed with me as to the advisability of operation the patient was admitted to the Royal Ear Hospital on May 27th. The next morning he had a very severe fit of vertigo at 11 A.M. whilst he was being prepared. This was so far the last attack he has experienced.

I operated upon the left labyrinth on May 28th at 3.20 P.M., assisted by Mr. Lake and Dr. A. E. Peters. Gas-ether, followed by chloroform, was administered by Dr. F. E. Shipway. The auricle was turned down by Lake's method[2] and a preliminary radical mastoid operation was performed. The patient being of the short-necked, plethoric type, some difficulty was experienced in getting a wide opening, and this was added to by the hardness of the bone and the depth of the antrum. On clearing the buttress three sharp facial twitches were noted. The ossicles and membrane having been removed, including the stapes, the promontory was exposed and the cochlea opened with a fine chisel and cautiously cleared out in a direction towards the vestibule. The external semicircular canal was next opened and the posterior canal similarly treated; the latter was followed to the vestibule, which was scraped with a fine spoon. The ampullæ of the canals were scraped with a sharp, bent probe, and a probe was passed from the cochlear wound, through the vestibule, to the canal wound. The cochlea and vestibule were then swabbed out with a 2 per cent. solution of formalin, after which the auricle was readjusted and the wound lightly packed *viâ* the meatus. The patient passed an excellent night, sleeping very well. The temperature was 98·8° F. and the pulse was 112. On May 29th his temperature and pulse were 98·2° and 108 in the morning and 98·6° and 112 in the evening. He vomited until mid-day and was retching throughout the day, with intervals of sleep. He complained of slight tinnitus in both ears. There was no vertigo. He had left facial paralysis. On May 30th his temperature and pulse were 98·2° and 96 in the morning and 98·8° and 96 in the evening. There was still some retching. He had no tinnitus in the left ear, but it occurred once or twice slightly in the right. He did not sleep until past midnight. On one occasion he got out of bed alone and walked steadily and

[1] THE LANCET, March 5th, 1904, pp. 649–651.
[2] THE LANCET, Jan. 6th, 1906, p. 26.

of a dog-fish, and there was absence of sweat. This condition also affected the upper arms and to a less degree the fore-arms—the flexor surfaces rather more than the extensor. The hands were not so much affected but the skin was dry and inelastic, and the nails were atrophic and curved over the finger-tips. The lower limbs were similarly affected, the thighs more than the legs, and the flexor more than the extensor surfaces; there was a good deal of keratosis on the feet. Enlarged lymphatic glands could be felt in front of and behind the ears, behind the angle of the jaw, in the submaxillary and submental regions, in front of and behind the sterno-mastoids, below the occiput, in the axillæ, one over the second left rib, above the internal condyle of the humerus on each side, and in the groins. The glands were of moderate hardness, separate, and somewhat tender on pressure. There was slight beading of the ribs. The limbs were much wasted and the legs appeared tender on pressure. The tibiæ were bowed antero-posteriorly and the shins were thick and rounded but there was no pain on percussion of the bones. Both knee-joints were distended with fluid and fluctuation and patella-tapping were readily elicited; the overlying skin was not reddened but there was increase of heat. The knee-jerks were present and the plantar reflexes were normal. There was no retinitis. The mucous membrane of the tongue and the inside of the mouth was pale but otherwise normal; there was no gingivitis or evidence of oral sepsis; the tonsils were large and pale. A systolic murmur was audible over the heart. The spleen was enlarged and hard; the liver could not be felt. The patient was lethargic and his intelligence was, and always had been, below normal.

Whilst in hospital the patient's temperature oscillated as a rule between 99° and 100° F.; on two occasions it rose to between 101° and 102°. His pulse on admission was 136; it was 124 on the following day but afterwards kept between 100 and 112. The bowels acted daily and the motions were somewhat loose but otherwise natural. The amount of urine varied between 34 and 54 ounces daily: it was acid in reaction, of specific gravity 1012 to 1015, contained no sugar, and on only one occasion out of five a faint trace of albumin. He weighed 5 stones 9 pounds. Examinations of the blood were made as follows: March 17th, red cells, 1,152,000 per cubic millimetre; leucocytes, 6200; March 18th, red cells, 1,184,000 per cubic millimetre; leucocytes, 6000 in the following proportions:—

"Mononuclears"	4320 per c.mm.	=	72·0 per cent.
Large lymphocytes	370 " "	=	6·1 " "
Small lymphocytes	380 " "	=	6·3 " "
Polymorphonuclears	720 " "	=	12·0 " "
Transitionals	170 " "	=	2·8 " "
Myelocytes	40 " "	=	0·6 " "

No basophiles or eosinophiles. Two normoblasts and two megaloblasts in counting 600 leucocytes. March 26th, red cells, 1,107,000 per cubic millimetre; leucocytes = 7000 in the following proportions:—

"Mononuclears" and large leucocytes	5868 per c.mm.	=	83·8 per cent.
Small lymphocytes	361 " "	=	5·1 " "
Polymorphonuclears	606 " "	=	8·6 " "
Transitionals	127 " "	=	1·8 " "

One myelocyte and one normoblast in counting 600 cells; no basophiles or eosinophiles.

In all films examined there was much poikilocytosis. A few erythrocytes were polychromatophilic, but no basophile granules were seen. Variation in size of the red cells was not so marked as is usual in pernicious anæmia and the average size was perhaps rather less than normal. By a regrettable oversight the hæmoglobin estimations were not recorded. The cell which has been termed "mononuclear" had the following characters. It was spherical and varied much in size. Commonly about 12 μ in diameter, some were considerably larger and a few smaller than this. The nucleus generally filled the cell, but in some instances a narrow segment of protoplasm, containing no granules and stained pale pink with Ehrlich's triacid mixture, was to be seen at one part of the circumference. The nucleus stained deeply but not evenly of a dull slate-blue colour, very different from the light bluish-green of the lymphocytes. Forms intermediate between these cells and lymphocytes and many atypical finely granular eosinophiles were met with. With Leishman's stain no distinction between these mononuclear cells and lymphocytes was possible. Whether this cell should be regarded as a member of the lymphocyte series or as a non-granular myelocyte or even as a still more alien invader of the blood stream it is difficult to say, though on the whole perhaps the first is most probable.

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Owing to the constipation from which he suffered the patient came to London on Jan. 6th and underwent a fortnight's abdominal massage which greatly improved the condition of his digestive organs. He also learned lip-reading, in which he speedily became very proficient. He remained in London until Feb. 26th, during which time he had slight giddiness daily and severe attacks of vertigo on two occasions. He returned to his vicarage on Feb. 26th and from that time his tinnitus and vertigo became steadily worse. On March 4th he had four severe attacks of vertigo. On March 14th a tape seton was inserted after the method of Wilson Parry,[1] but this treatment did not appear to have any effect upon his tinnitus or vertigo. The former became "unbearable," and he had between 40 and 50 attacks of the latter of varying severity between March 4th and April 30th.

As the patient was becoming very disheartened the question of operation with a view to destroying the left labyrinth was discussed. Recourse to such a measure had been suggested but I purposely delayed urging it until other methods had been tried. On May 19th he was seen in consultation by my colleague, Mr. R. Lake. On that occasion it was found that the use of the Siegle speculum on the left side caused vertigo and that movement to the left on a turntable at once elicited vertigo which was accompanied by very slight left lateral nystagmus. With the heels together and the eyes closed he swayed to the left. The results of functional tests were as follows: Bone conduction to all forks on both sides was *nil*. By air conduction there was perception only to C^2 (512), C^3 (1024), and C^4 (2048). With the continuous tone whistle he heard from a^2 to a^3 but missed c_4 sharp. He was quite unable to hear the voice. As Mr. Lake agreed with me as to the advisability of operation the patient was admitted to the Royal Ear Hospital on May 27th. The next morning he had a very severe fit of vertigo at 11 A.M. whilst he was being prepared. This was so far the last attack he has experienced.

I operated upon the left labyrinth on May 28th at 3.20 P.M., assisted by Mr. Lake and Dr. A. E. Peters. Gas-ether, followed by chloroform, was administered by Dr. F. E. Shipway. The auricle was turned down by Lake's method[2] and a preliminary radical mastoid operation was performed. The patient being of the short-necked, plethoric type, some difficulty was experienced in getting a wide opening, and this was added to by the hardness of the bone and the depth of the antrum. On clearing the buttress three sharp facial twitches were noted. The ossicles and membrane having been removed, including the stapes, the promontory was exposed and the cochlea opened with a fine chisel and cautiously cleared out in a direction towards the vestibule. The external semicircular canal was next opened and the posterior canal similarly treated; the latter was followed to the vestibule, which was scraped with a fine spoon. The ampullæ of the canals were scraped with a sharp, bent probe, and a probe was passed from the cochlear wound, through the vestibule, to the canal wound. The cochlea and vestibule were then swabbed out with a 2 per cent. solution of formalin, after which the auricle was readjusted and the wound lightly packed *viâ* the meatus. The patient passed an excellent night, sleeping very well. The temperature was 98·8° F. and the pulse was 112. On May 29th his temperature and pulse were 98·2° and 108 in the morning and 98·6° and 112 in the evening. He vomited until mid-day and was retching throughout the day, with intervals of sleep. He complained of slight tinnitus in both ears. There was no vertigo. He had left facial paralysis. On May 30th his temperature and pulse were 98·2° and 96 in the morning and 98·8° and 96 in the evening. There was still some retching. He had no tinnitus in the left ear, but it occurred once or twice slightly in the right. He did not sleep until past midnight. On one occasion he got out of bed alone and walked steadily and

[1] THE LANCET, March 5th, 1904, pp. 649-651.
[2] THE LANCET, Jan. 6th, 1906, p. 26.

without any difficulty across the ward. Nourishment was taken well. The first dressing was done under gas on June 1st, after which he complained of tinnitus in the right ear. Except for an attack of follicular tonsillitis he made an uneventful and uninterrupted recovery. He was able to walk downstairs ten days after the operation and left the hospital on June 30th. Marked rotatory nystagmus had been noted on June 4th; it was decidedly weaker on June 6th and was absent on June 17th. Before he left the hospital the patient began to hear the voice again with the right ear and functional testing on June 29th gave the following result: left ear, *nil*; right ear, voice three inches, Galton whistle 11048·30 vibrations. Bone conduction to all forks, *nil*. Air conduction, 3C16 and 2C32 = 0, 1C64 = ? perception, C128 = perception, $C^1256 = -27$ seconds, $C^2512 = -38$ seconds, $C^31024 = -19$ seconds, $C^42048 = -35$ seconds.

The patient spent the greater part of July at Deal and returned to me on July 28th. There was occasional slight buzzing on waking up, but no vertigo. His facial paralysis was improving. I last saw him on Sept. 2nd when over three months had elapsed since the operation. His condition then was as follows. The facial paralysis was much improved. He has occasional slight buzzing in the left ear on waking and after taking tea or coffee. This noise is not constant and nothing like the unbearable, machinery-like tinnitus from which he suffered before the operation. He has never had any vertigo or even slight giddiness since the operation. He stands firmly with the heels together and the eyes closed and has no nystagmus. By air conduction (right ear) he can hear all forks from $C^1(256)$ to $C^4(2048)$ inclusive, but not those of lower pitch, but he still cannot hear any fork by bone conduction. He can converse well by lip-reading and can hear the ordinary voice by means of an ear-trumpet or when spoken close to the ear, and he can carry out his duties with ease and comfort.

The history of these operations on the labyrinth for the relief of vertigo or tinnitus incurable by other means and occurring in non-suppurative cases has already been given in the paper by Lake, already referred to. To recapitulate briefly the instances in which such operations have been performed, the first was that of Milligan,[3] the second that of Lake,[4] who, however, antedated Milligan in publication. The third case, also reported by Lake, was, I believe, the first in which the cochlea was attacked. Four more operations of the kind have been performed by Lake with success. I have been told of one unpublished and unsuccessful case performed in London by another surgeon, so that the one here reported is the ninth operation which has been undertaken. It has been, as the reader will have gathered, in every way successful. The method which I adopted—viz., simple opening of the cochlea, vestibule, and canals, with the destruction of the ampullary soft parts—proved quite sufficient and was unaccompanied by the severe constitutional disturbance recorded by Lake in his first cases in which he removed one or more canals only. In my opinion the attacking of the labyrinth *viâ* the radical mastoid operation is more scientific and certainly more justifiable (and less dangerous) than attempting to divide the auditory nerve in the skull, and this opinion I expressed at the Glasgow meeting of the Otological Society in 1904.[5]

Harley-street, W.

TWO CASES OF PNEUMOTHORAX.

BY J. PENN MILTON, M.R.C.S. ENG., L.R.C.P. LOND.

CASE 1.—The patient, a male, aged 20 years, was admitted to the Udal Torre Sanatorium, Yelverton, on July 22nd, 1907, with a history of hæmoptysis off and on since March 1st. He was very pale and anæmic and had lost weight. Consolidation and crepitations were present on the right side from the apex to the fifth rib. There was a fair amount of expectoration. The temperature was above the normal, but it gradually settled down to normal. The patient was putting on weight and the lungs were clearing up. On Sept. 22nd the temperature rose to 102° F. after a short walk, and the patient went to bed. On Oct. 22nd a slight hæmoptysis took place. On Nov. 8th as the temperature had been normal for several days it was arranged for him to get out of doors on the following day. At 5 A.M., however, the nurse found him with acute pain in the right chest, suffering from collapse with hurried respirations. Morphine was given. No physical signs could be heard to indicate the cause, but pneumothorax was suspected and it was easily diagnosable on the next day. Dyspnœa and pain became so urgent owing to accumulation of air in the right pleural cavity that I inserted a cannula in the fifth intercostal interspace and immediate relief followed. A yellowish clear serous fluid escaped. On Nov. 13th I withdrew the cannula, but in a few hours the pain and dyspnœa were just as bad. Re-insertion of the cannula again gave relief. On Nov. 14th I removed the patient to the Charlton Nursing Home at Plymouth to be under the care of a surgeon (Mr. C. Hamilton Whiteford). During the journey the cannula came out. On arrival at the home the patient's condition was so good that the cannula was not re-inserted. From this time forward absolutely uninterrupted recovery was made and the patient returned to the sanatorium on Dec. 20th. From this date to last March, when the patient left, the temperature had been practically normal. The gain in weight since the attack had been 15¾ pounds. The right lung, which was collapsed, had made some progress towards expansion and a fair amount of exercise could be taken. The general condition was good and the disease apparently was arrested.

CASE 2.—The patient, aged 35 years, was admitted to the sanatorium on August 31st, 1907. On arrival he looked ill and his colour was unhealthy and earthy. A hard cough with no expectoration was present. The temperature was slightly above the normal. Consolidation and crepitations were present at the right apex with harsh breathing and prolonged expiration at the left apex. Improvement was quick; the temperature became normal and the general condition became distinctly better. After making good progress the temperature rose, expectoration commenced, and the right apex began to break down. The patient was confined to bed and the temperature was neither amenable to drugs nor to serums. The mental condition gave cause for anxiety; it was such that I advised a change and he was taken to the same nursing home as the last patient. Here progress was again marked with a great reduction in the temperature and an improvement in the spirits of the patient. But after about a fortnight the patient was found to be in a state of collapse at midnight. Dr. H. A. Lyth was hurriedly called in and he found the patient propped up in bed in great distress from acute dyspnœa, cold and livid, the pulse being 150, the respirations 57, and the temperature subnormal. There was no pain. On examination on the next day there were lack of movement on the right side and recession of the intercostal spaces during inspiration. On auscultation over the hyper-resonant area amphoric breathing with loud bubbling râles could be heard. A perforated lung with pneumothorax, which was shut off from the lower half of the chest by adhesions, was diagnosed. After the initial shock was passed the temperature rose again and the disease continued its active course as before, the patient dying on the fourteenth day from cardiac syncope. A post-mortem examination made by Dr. Lyth showed the right lung to be universally adherent, the apex having to be torn away. The lower half, including the diaphragmatic adhesions which were recent, was easily separated. A localised pneumothorax was found over the adjacent parts of the upper and middle lobes. The perforation of a large cavity in the upper lobe showed as a freely open round hole a quarter of an inch in diameter. No fluid was present. There were tubercles in the upper and lower lobes of the left lung.

The two cases compared are interesting from the fact that pneumothorax was present in both cases in practically the same spot. Pain was present in one case and absent in the other. One patient died, the other recovered. The interesting point is whether the insertion of a cannula into the pleural cavity of the one case which recovered, causing a complete collapse of the lung and arrest of the disease, would have been equally successful in the case of the patient who died. Personally, in all future cases of pneumothorax I should feel very strongly inclined to insert a cannula into the

[3] Journal of the British Laryngological, Rhinological, and Otological Association, August, 1904.
[4] THE LANCET, June 4th, 1904, p. 1567.
[5] Transactions of the Otological Society, vol. v., p. 67.

affected side, so as to establish communication with the external air, as I believe that an absolute collapse of the lung, which was not primarily present in either of my cases but which connexion with the external air by means of the cannula induced in Case 1, is productive of good.

Yelverton.

THE PREVENTION OF DEATHS UNDER ANÆSTHETICS.[1]

BY FREDERIC W. HEWITT, M.V.O., M.A., M.D. CANTAB.,

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THE prevention of deaths during and after general anæsthesia constitutes one of the most pressing questions of the present day. As one of the objects of the British Association is "the removal of any disadvantages of a public kind which impede the progress of science," and as the author of the present paper is firmly convinced that the risks connected with anæsthetics would be very materially reduced by improving the conditions and circumstances under which they are now administered, it is hoped that the Association may help to solve this question by making some pronouncement in favour of the reforms herein suggested. Although we have no reliable statistics as to the death-rates under different anæsthetics, there is ample evidence, firstly, that a very large number of persons have died wholly or partly from the effects of these drugs; and, secondly (doubtless owing to the increasing number of surgical operations), that fatalities of this kind are increasing to an appalling extent.

In order that the risks incidental to generalised anæsthesia may be reduced it is obviously necessary in the first place carefully to consider the conditions and circumstances under which anæsthetics are now administered. At the present moment (1) the law permits any person whatsoever, whether he be medically qualified or not, to produce general anæsthesia for a surgical operation; (2) many of the examining bodies for medical qualifications permit their candidates to qualify without producing evidence of having received instruction in anæsthetics; (3) the departments of anæsthetics at our general hospitals are in many instances imperfectly and inadequately equipped, both in *personnel* and in other respects, the result being that the true principles of safe anæsthetisation are often barely, if at all, appreciated either by the teachers themselves or by their pupils; (4) in both hospital and private practice anæsthetics are frequently intrusted, even in the most difficult cases, to comparatively inexperienced practitioners who from no fault of their own find themselves incapable of successfully carrying out their responsible duties; and (5) with a few exceptions our hospitals publish no records as to the number and kinds of anæsthetics annually administered, so that any returns of deaths under anæsthetics, such as those of the Registrar-General of Births, Deaths, and Marriages, are useless as indicating either the relative risks of anæsthetics or the effects of any reforms upon death-rates.

It is hardly necessary to point out that if the public is to be protected properly the administration of anæsthetics must be placed upon a very different basis from that which at present exists. Experience has conclusively shown that though powerful poisons anæsthetics may be safely administered provided that those who undertake their administration have been properly educated and trained and that the principles under which they work and the methods which they employ are based upon scientific data. It would be beyond the scope of the present paper to enter fully into the strictly medical and scientific aspects of the problem of death prevention. It is contended that before such aspects can be profitably discussed the ground must be cleared by raising the level of this department of practice and by recognising the all-important fact that it is only by equipping all medical practitioners with increased knowledge and by applying it in practice that deaths under anæsthetics may be prevented. At the same time one cannot on such an occasion as the present refrain from acknowledging the valuable contributions to the subject which have been made by Professor A. Waller and other eminent physiologists, not only at previous meetings of this Association but elsewhere. Whilst fully appreciating the importance of their work and the fact that by regulating the percentage composition of anæsthetic atmospheres accidents may certainly be reduced in frequency, I am of opinion that before such methods can be adopted by medical practitioners and properly applied medical students must receive a better and wider education in anæsthetics than at present. They must be made fully to understand, in particular, the importance of free and absolutely unobstructed respiration; and when once the standard of education has thus been raised the strictly scientific work of the physiologist will yield a fruitful harvest. It is submitted that there is no single principle the faithful observance of which will insure safety in every case in which an anæsthetic is given. When we consider the different types of our subjects, the different operations which have to be performed, the different degrees of anæsthesia which may be required, the influences which different postures may have upon the circulation and respiration, and other essentially practical points, the truth of this proposition will become apparent. I would submit that there are three main principles which must collectively be observed in order to secure safe anæsthetisation. These are: (1) the selection of appropriate anæsthetics according to the exigencies of particular cases; (2) the adjustment of the vapour percentage of the anæsthetic to meet the varying requirements of each case; and (3) the avoidance of the slightest obstruction to the free entry and exit of air throughout the administration. Many distinguished authorities pin their faith to the second of these three principles, maintaining that by the regulation of the percentage composition of anæsthetic atmospheres dangerous conditions may invariably be avoided. This view I find myself unable to accept. Were it practicable in the human subject to introduce anæsthetic gases and vapours below the glottis and thus to eliminate the various forms of obstructed breathing which so often complicate and render fatal the anæsthesia of surgical practice, the administration of chloroform and other agents might undoubtedly be made as safe in the operating theatre as Professor Waller has demonstrated it can be made in the physiological laboratory. But such a system is unfortunately inapplicable, and I submit that unless it can be demonstrated that there is just as free a lung ventilation when a 1 per cent. or 2 per cent. chloroform vapour is administered to human subjects through the naso-oral channels as there is when a similar percentage mixture is administered to lower animals through tracheal cannulæ, it is illogical to argue from the latter to the former subject. It would be exceedingly interesting and of great importance in solving the main question if arrangements could be made whereby a small committee of physiologists might see for themselves the manner in which anæsthetic difficulties and dangers generally come about in surgical practice. I am of opinion that such a committee would soon realise the great differences which exist between naso-oral and tracheal anæsthetisation and the marked influence which the asphyxial factor incidental to human anæsthetisation has in modifying and complicating the usual phenomena of anæsthesia. In the meantime I would urge that unless the other two principles above mentioned be applied in conducting all administrations success cannot be invariably depended upon. I am inclined, indeed, to regard the third, or last-mentioned, principle as the most important of the three, for my whole clinical experience and the examination of the records of a large number of recent fatal cases (which by the kindness of Dr. F. J. Waldo and of Dr. L. Freyberger have been placed at my disposal) convince me that in the great majority of deaths under anæsthetics some obstruction to breathing above the trachea has been a powerful factor.

I contend that the above considerations point to the urgent necessity for higher education and skill amongst those to whom the important duty is intrusted of maintaining adequate anæsthesia for surgical operations. The first reform should be to make it a penal offence for anyone but a legally qualified medical practitioner to administer an anæsthetic. The second should be to improve and extend the anæsthetic departments of our hospitals by appointing experienced men of the highest professional and academic attainments to the various offices of such departments, so that all anæsthetics shall be administered or supervised by such

[1] A paper read before the Physiological Section of the British Association for the Advancement of Science, on Sept. 3rd, 1908.

officers and the subject be properly taught to students. The third should be to make a thorough course of instruction in anæsthetics a necessary part of the medical education of every legally qualified medical practioner, so that before administering anæsthetics on his own responsibility he would have administered a large number under the supervision of a competent teacher. There is ample material, not only in our general but in our special hospitals, for the most thorough practical instruction of all our medical students. The fourth reform needed is the registration by all hospitals of all anæsthetics administered, so that it may be possible, at all events as regards such institutions, to ascertain the death-rates of the different agents employed and to watch the effects of any reforms that may be introduced.

If such changes as these were effected the public would undoubtedly be protected as far as is possible against deaths under anæsthetics, for they would have at their disposal throughout the country qualified and thoroughly trained practitioners who would realise the responsibilities intrusted to them. Moreover, in our provincial towns and other centres throughout the country there would always be available numerous practitioners who, as the result of the improved hospital equipment, had held resident or non-resident anæsthetic offices. Such specially qualified practitioners, whilst practising as surgeons, physicians, or general practitioners, would be of incalculable value in surgical and in dental practice. It is in the highest degree probable that under such a *régime* deaths during anæsthesia would rapidly decline in number, and that the discreditable incidents now too often associated with the giving of anæsthetics for surgical and dental operations would become a thing of the past. It is a matter for great congratulation that the General Medical Council has lately looked favourably upon the more important of the above-mentioned reforms, and it is to be hoped that ere long legislation may be granted in the directions indicated.

Queen Anne-street, W.

A CASE OF FRACTURE OF THE RIBS, RUPTURE OF THE LUNG, AND PNEUMOHÆMOTHORAX,

WITH NOTES OF THE POST-MORTEM EXAMINATION.

BY MARY C. DE GARIS, M.D., B.S. MELB.,
RESIDENT SURGEON AT THE MUTTABURRA HOSPITAL, QUEENSLAND.

A BUSHMAN, aged 50 years, was admitted to the Mutta burra Hospital on August 11th, 1907. He stated that on the preceding Thursday (the 8th) he was thrown by his horse, which then rolled on him. He was alone with nothing to eat or drink but some tea until he was brought into the hospital. He said that he coughed up a large amount of blood after the accident, that he passed blood with his urine, and that his bowels had not been opened.

On examination there were several bruises on the back of the shoulders. His head was bent forward and his neck could not be straightened without pain. There was an ecchymosis below the right eye. His right arm hung helpless at his side, both passive and active movement being very limited; the humeral head was in normal position, but the acromion process was very prominent, and there was apparent crepitus on passive movement of the shoulder. There was no swelling about the shoulder. The clavicle, acromion, and forearm bones were all sound. The abdomen showed no abnormal signs. His temperature was 101° F., the pulse was from 120 to 130, and the respirations were 48. There was very severe pain in the right side of the chest, referred especially to the axilla. There was marked orthopnœa (which persisted throughout his illness, he being compelled to maintain the sitting posture almost constantly). He was very tender in the right axilla especially, but no crepitus was felt. There was limited subcutaneous surgical emphysema felt in the right side of the neck, not extending below the right clavicle in front, nor quite to the upper level of the scapula behind, nor beyond the middle line in front. The respiratory movement of the right side of the chest was very poor. He was coughing up a considerable amount of very blood-stained expectoration, the cough being frequent and distressing. The apex beat was visible in the fifth interspace one inch outside the nipple line; the first sound was slightly murmurish in the apical area, otherwise the heart sounds were clear. On percussion the right side of the chest was found to be highly resonant, the upper level of the liver dulness being markedly lowered. There was a very marked diminution of breath sounds in the right side of the chest both anteriorly and posteriorly; the breath sounds were not amphoric, nor was there any metallic tinkling. Some adventitious sounds were heard and were considered to be due to crepitus from fractured ribs. There were some tenderness and swelling over the spines of the lower cervical vertebræ, but their position was normal. The urine was very high coloured, acid, of specific gravity 1022, with much albumin, and no blood. Urates were present. The examination made was as limited as possible owing to the patient being in so much distress. The diagnosis of rupture of the lung with pneumothorax was made.

The treatment was as follows. The patient's right side was strapped with Mead's plaster and his arm was bandaged loosely and supported in a sling so as not to hamper the movements of the chest. These measures afforded him great relief, though his cough remained exceedingly troublesome. A cough mixture containing some opium was given. His bowels were got freely open. He slept very badly throughout, sleep being only obtainable by the aid of morphine. The cough and orthopnœa and restlessness were present throughout, but the expectoration changed from nearly pure blood to a nearly rusty character, becoming very viscid and difficult to dislodge, so that during the last few days the doses of morphine were reduced to a minimum.

On the day after admission crackling crepitations were heard in the left axilla; these persisted. The stiffness of the neck disappeared completely after two or three days, and the patient became able after five or six days to move the arm much more freely, though never able to elevate it. An ecchymosis became obvious in the right loin about six or seven days after admission.

On August 13th the chest was explored and almost pure blood containing no air was obtained. The respirations reached 70 on this day and the temperature varied from 98·2° to 101°. It was considered inadvisable to aspirate in case of hæmorrhage recommencing. On the 16th the chest was again explored and then aspirated in the hope of relieving the distressing dyspnœa; only a few drachms of blood-stained fluid and a good deal of air were obtained. This procedure made no difference to the position of the apex beat and apparently did little good; it necessitated the removal of the strapping, which was not replaced. On this day the urine was examined and was found to be free from albumin. On the 17th the surgical emphysema was almost gone and was not observed at all on the 18th. The temperature from the 17th remained subnormal, the pulse became very feeble though less rapid, and on the 19th slight delirium was noticed. Pain below the right clavicle was very troublesome for the two days preceding his death, otherwise the patient was much easier than on admission. He at no time exhibited much cyanosis, so that no occasion arose for the performance of venesection. Respiration was always laboured, but the rate varied from 70 to 50 to 28 at different times. He died quietly at 12.15 A.M. on August 20th.

A post-mortem examination was performed. An incision was made on to the head of the right humerus, which was found in the normal situation and without fracture. There was a small bony mass in one tendon near its insertion into the humerus, which must have caused the crepitus felt. On opening the right pleura air escaped from it with a rush. A small amount (about eight ounces or so) of slightly blood-stained fluid was found in the right pleura (being possibly the serum of the clotted blood). There was a large amount of clot adherent to the lung surface and to the parietal pleura; this clot gave one the impression of having air in it. The right lung itself was small, collapsed, fleshy, airless, with a tear of the middle lobe. There was no abnormal inflammation. The left lung was resonant, but blood had evidently been inspired into it, for a frothy bloody fluid escaped on section. There was a remarkable absence of compensatory emphysema, the lung being only of about normal volume. There was an old fibroid tuberculous patch at the apex of the left upper lobe. There was no evidence of pneumonia. The pericardium contained a very small amount of clear fluid. The heart showed some flabbiness of the right ventricle,

but was otherwise healthy with clean valves. The aorta showed one or two tiny patches of atheroma near the aortic valves. The liver was large and friable. The spleen was soft. The kidneys showed rather adherent capsules, especially the right one, with stellate veins, striate cortices, and ill-defined pyramids; they were very red and tough but there were no granulations. There was no sign of injury to the kidneys from the accident. The appendix was long, thin, curved, and bound down in nearly all its length; there were several fine band-like adhesions holding it near its tip. The second, third, fourth, and fifth ribs were fractured at about 1 inch to 1½ inches from the costo-chondral junction; they showed no displacement. The sixth and seventh ribs were fractured about 1½ inches from the side of the spinal column; they had evidently been displaceable into the chest and may have been responsible for the tear in the lung. The first and other ribs escaped fracture. The skull and brain were not examined.

Muttaburra, Queensland.

THE PATHOGENESIS OF TABES DORSALIS.

BY TOM A. WILLIAMS, M.B., C.M. EDIN.

CONTROVERSY as to the pathogeny of tabes has not ceased since Duchenne[1] surmised its sympathetic origin and Charcot[2] later supposed it to be a posterior column dystrophy, similar to that of Friedreich's ataxia. His great authority prevented due attention to the researches of Obersteiner and his followers until the memoir of Redlich appeared in 1896.[3] The discoveries as to the syphilitic etiology of tabes caused greater attention to the work of Nageotte,[4] who in 1894 had indicated the constancy of lesions on the radicular nerve at the point where it receives its meningeal sheaths. These lesions correspond to one or other stages of the granulomatous process, varying as they do from simple round-cell infiltration to granuloma, and even breaking down with formation of cavities. They are due to primary chronic meningitis, evidenced by the lymphocytosis found by spinal puncture during life and post mortem when skilfully looked for, although the tendency of the process to resolution and fibrous-tissue formation leaves only a slight thickening in the membrane, already fibrous by nature.

The changes in the cord are consecutive to this. That this is so is proved by similar changes of the posterior column after disease of, or experimental section of, individual roots[5] and by the changes occurring in the mechanical affection of the radicular nerves due to the increased intraspinal pressure caused by the growth of cerebral tumours.[6] The noxa falls upon the root fasciculi very disparately[7] and this corresponds to the disparate nature of the sensory troubles, which do not preponderate so much as formerly supposed upon the fibres which subserve the sense of attitudes and of muscular movement; for it is now definitely shown that cutaneous sensations are always involved more or less, though probably later in the disease.[8] The superficial lightning pains described by Gowers[9] and the psychometric analysis of the sensibility of tabetics by Vaschide[10] are an index to this, while the researches of Head[11] enable us to explain the modifications in terms of deep, protopathic, and epicritic sensibility. The fibres subserving the life of internal relation may differ morphologically from those subserving external relationship as contended by Pierre Bonnier[12] with particular reference to the eighth nerve, the principal posterior root, where the cochlear portion whose function concerns the outside world is affected only rarely, while the vestibular portion is concerned with intrinsic relationships and is involved very commonly indeed in the tabetic process. However this may be, it is certain that impaired sense of attitudes is always accompanied by impairment of the deep pain sense and of perception of the vibrations of the tuning fork by the bones,[13] and as these functions are conveyed in the same peripheral path while they are separated within the cord[14] clinical evidence is in entire harmony with the pathogenetic theory advanced by Nageotte. The data furnished by the optic nerve symptoms are similarly best explicable by a meningeal affection, involving in this case not a posterior root but a homologue of an intraspinal path.[15]

The tabetic symptoms referable to the sympathetic do not differ from those produced by experimental section of the spinal roots, nor from those in syringomyelia, which, however, attacks the cell bodies in the intermedio-lateral column.[16] Charcot's negation of changes in the sympathetic is effectively disproved by the researches of Roux,[17] who found the medullated fibres markedly decreased in tabetics. The anterior roots are not unaffected, but the relative absence of serious myopathies early in the disease is accounted for by the rapid regeneration of the fibres. This is shown by the "*terminaisons en croissance*" exhibited by Nageotte's[18] preparations and by the results of section experiments.[19] The regeneration of the posterior root fibres extends only to Redlich's ring at which they lose the neurilemma sheath.[20] Finally, evanescent lymphocytosis and reflex iridoplegia, the two most characteristic signs of tabes, are found in many cases of syphilis without other tabetic symptoms[21]; indeed, both sometimes occur in the secondary stage, the former in as many as 40 per cent.[22] The contention of Babinski and Nageotte[23] is therefore accepted that a chronic syphilitic meningitis is responsible for what has been called tabes dorsalis and that it was formerly disregarded on account of the tendency to the occurrence of resolution and fibrosis of the lesions.

The practical application of this conclusion may be of the greatest importance in the treatment of the disease. Cases taken early may be completely arrested,[24] and in all cases the active manifestations may be resolved if adequately treated before the destruction of the noble elements has occurred, though naturally the residues of former exacerbations cannot be removed.

Washington, D.C., U.S.A.

A MODIFICATION OF THE ROMANOWSKY STAIN.

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ASSISTANT BACTERIOLOGIST.

(*From the Government Laboratories, Johannesburg, South Africa.*)

THE following quick and simple method of preparing an eosin-methylene blue compound stain gives excellent results. The appearances of blood films stained by this method are similar to those coloured by Leishman's stain, although the blue and violet tints are a little different and the red is deeper. The nuclear structure is particularly sharply defined and the granules of the various leucocytes are well shown. The stain has now been in constant use in these laboratories for 18 months, and in our hands has given better and more uniform results than Leishman's stain.

Solution I., Polychrome methylene blue.—Dissolve 1 gramme of Grubler's ordinary methylene blue in 100 cubic centimetres of distilled water. After 24 hours decant the supernatant fluid, and to 90 cubic centimetres add 10 cubic centimetres of a 1 per cent. aqueous solution of sodium

[1] Duchenne: Archives de Médecine, 1858.
[2] Charcot: Leçons Cliniques, 1888.
[3] Redlich: Centralblatt für Allgemeine und Pathologische Anatomie, 1896, p. 985.
[4] Nageotte: Pathologie de Tabes Dorsalis, Paris, C. Naud, 1903 and 1904.
[5] Koster: Zur Physiologie der Spinal-Ganglionen in der troph. Nervösen Pathologie der Tabes, Leipsic, Engleman, 1904.
[6] Le Cjonne: L'Encephale, March, 1907.
[7] Nageotte: Revue Neurologique, 1907.
[8] Déjerine: Sémiologie du Système Nerveux, Traité de Pathologie Générale de Bouchard et Brissaud.
[9] Gowers: The Pains of Tabes, Brit. Med. Jour., 1906.
[10] Vaschide: Étude Psychologique de la Sensibilité dans le Tabes, Académie des Sciences, Paris, 1902.
[11] Head, Rivers, and Sherren: Brain, 1907, The Afferent Nervous System from a New Aspect.
[12] Bonnier: Le Vertige, Paris, 1904; Le Tabes Labyrinthique, Nouvelle Iconographie de la Salpêtrière, 1899.
[13] Marinesco: Semaine Médicale, 1905, vol. xxv., p. 565.
[14] Head: Brain, 1906, Grouping of Afferent Impulses within the Cord.
[15] Marie et Leri: Revue Neurologique, 1905.
[16] Bruce: Review of Neurology and Psychiatry, The Intermedio-lateral Tract, 1907, p. 1.
[17] Roux: Thèse de Paris, 1900.
[18] Nageotte: Société de Biologie, 1906.
[19] Bickles: Neurologisches Centralblatt, No. 20, 1907.
[20] Orr and Rows: Brain, 1904.
[21] Babinski: Revue Neurologique, 1901.
[22] Ravaut et Beletre: Société Médicale des Hôpitaux de Paris, 1901.
[23] Babinski et Nageotte: Société de Biologie, 1905.
[24] Duhot: Annales de la Polyclinique, Brux., 1903.

hydrate. This mixture is heated to from 55° to 60° C. on a water bath or in a thermostat for 24 or 36 hours.

Solution II., Eosin.—One gramme of eosin (Grubler's yellow shade, soluble in water) is dissolved in 5 cubic centimetres of absolute alcohol, then 95 cubic centimetres of distilled water are added.

To make up the stain.—Take 35 cubic centimetres of Solution I., add about 50 cubic centimetres of methyl alcohol (Merck) and shake well, then add 30 cubic centimetres of Solution II. and make up the total volume to 350 cubic centimetres with methyl alcohol. With some samples of methylene blue it is advisable to employ 40 cubic centimetres instead of 35 cubic centimetres of Solution I. The staining of a trial blood-film will indicate whether this is necessary, and, if so, the extra quantity of the blue solution may then be added. The stain thus produced may be used at once, neither filtration nor evaporation being necessary. The differentiating qualities are improved by incubation at 37° C. for 24 or 48 hours, care being exercised to retard evaporation of the alcohol by tightly plugging the flask or bottle with cotton wool. If contained in a well-stoppered vessel the fluid will keep for at least four months—probably much longer, and improves rather than deteriorates in staining properties.

The method of fixing and staining preparations is similar to that employed in Leishman's process—viz., first one minute in the undiluted solution, then three minutes after adding from two to four volumes of distilled water. If the films be then thoroughly irrigated for about 20 seconds with distilled water, by means of a wash-bottle, it is not necessary to allow the water to remain for a minute, as suggested by Leishman. With but little experience, clean and evenly stained preparations are produced.

One point in the technique that should be emphasised is as follows. When the staining is complete the excess of fluid must not be tipped off but, the slide being held horizontally, it must be flooded off with a jet of distilled water. For demonstrating the structure of trypanosomes and other blood parasites better results are obtained by prolonging the staining period to 10 or 20 minutes.

The stain may be reduced to the form of a powder by evaporating the solution to dryness at about 60° C. To make up the stain from this powder weigh up 0·3 gramme and mix with 10 cubic centimetres of distilled water. Allow this to macerate for five or ten minutes, then add methyl alcohol to 100 cubic centimetres. This solution may be used at once but is improved by standing for a day.

Johannesburg.

Reviews and Notices of Books.

The Principles and Practice of Modern Otology. By JOHN F. BARNHILL, M.D., Professor of Otology, Rhinology, and Laryngology, Indiana University, &c.; and ERNEST DE W. WALES, B.S., M.D., Associate Professor of Otology, Rhinology, and Laryngology, Indiana University, &c. With 305 Illustrations. London and Philadelphia: W. B. Saunders Company. Pp. 575. 1907. Price 24*s.* net.

IT is stated in the preface that the primary object which has been kept in view is to modernise the subject; secondly, to correct certain traditional beliefs, the principal one being that children outgrow their ailments; thirdly, to advocate the earliest possible prophylaxis or treatment; fourthly, to emphasise the importance of a thorough examination; and fifthly, thoroughly to illustrate the text. This is a large programme, and a work even as richly illustrated as this, unless its illustrations throw new light upon their subjects or disprove established views, will have difficulty in being of great value from a modernising point of view; and the author's aim is but partially achieved.

The first chapter, on the anatomy of the temporal bone, is certainly very complete and very well illustrated, but the physiology of the organ of hearing is summed up in five pages, commencing with the statement that "very little is actually known about the function of hearing; the physiology of the internal ear is wholly theoretic, and theory is but another name for ignorance." The third chapter, on the bacteriology of the ear, contains most of what is known up to the present time but we do not notice anything new. The fourth chapter is on the causation of diseases of the ear, while the next ten chapters are devoted to diseases of the external ear. The seventeenth chapter is devoted to the methods of examination of the patient, and here we find, as is not at all uncommon in modern text-books of this description, a reproduction of a photograph of a consulting room. In Chapter XVIII. we are told that "as a therapeutic measure Politzerisation holds a middle position between the Valsalva method and inflation by means of the catheter." This cannot be considered as at all a modern view, considering how universally Valsalva's method is condemned by modern otologists.

The section dealing with the examination of the function of the ear presents a fair description of the various tests and the evidence upon which the diagnosis should be made between middle-ear and labyrinthine deafness. The twenty-first chapter is on acute tubo-tympanic catarrh which is an excellent name for the condition more usually described as acute Eustachian obstruction; we feel that this title forms a definite advance in the right direction. In the succeeding chapter, which deals with acute catarrhal otitis media, which is after all but another stage of the preceding complaint, we notice a description which we have not seen before but which is, nevertheless, absolutely correct—namely, that the benefit of packing a discharging ear with dry gauze rests not so much in its antiseptic properties as in its syphon action. Acute mastoiditis, with its treatment, operative and otherwise, occupies the next chapter. There is only one criticism which we would make on the treatment of acute mastoiditis, which is to ask why the bowels should not be opened until the third or fourth day. Chapters XXIV. to XXX. deal with chronic suppurative otitis and contain amongst other illustrations several extremely good micro-photographs, one of a much thickened tympanic membrane in this disease, and some very pertinent remarks are here made with regard to the influence of nasal and naso-pharyngeal trouble on this complaint. In discussing the various operations ossiculectomy is carefully described, and an angular knife is depicted which is used to divide the capsular ligament between the stapes and the incus, a refinement of operative technique which is as unnecessary as it is probably difficult. In the chapter on chronic mastoiditis there is a series of excellent illustrations showing many of the various conditions which occur. But here, in the description of the operation for chronic mastoiditis, which is otherwise most accurately written, the reader is warned against separating the whole of the external meatus from the bone without previously dividing it at its inner extremity if the ossicles are still present and attached to any remnant of the drum membrane, as otherwise the stapes might be torn from its position. This is a statement which is so obviously fallacious that we wonder how it could have found its way into the book. Intracranial complications are very well dealt with and some excellent diagrams and plates illustrating the subject are given, including a flap for exposing the temporo-sphenoidal and antral regions at the same time, which seems to us to be a very valuable one. On p. 465 there is a useful table to assist in the differential diagnosis between the various forms of intracranial lesions.

Chronic non-suppurative otitis media comes under one heading; no attempt is made at any differentiation between the various conditions found. In its treatment, if other and milder methods have failed, various operative procedures are suggested, amongst which complete ossiculectomy, including removal of the stapes, is recommended. The last chapters on diseases of the internal ear, including deaf-mutism,

contain considerable information, and there is a brief allusion to the fact that certain neuroses are associated with deafness characterised by a great loss of bone conduction. In Chapter XLVII. labyrinthine suppuration, combined with caries and necrosis, is described, and Chapter XLVIII. briefly discusses deaf-mutism and the means of dealing with deaf-mutes.

The writing and illustration of the book are excellent. We have been critical in the above review out of regard for the size of the task which the author has essayed. If he has not been completely successful he has, at any rate, given us a very good book.

International Clinics. Edited by W. T. LONGCOPE, M.D., Philadelphia, U.S.A. Vol. IV., Seventeenth Series. 1907. London and Philadelphia: J. B. Lippincott Co. Pp. 308.

SEVERAL interesting contributions will be found in this volume dealing with various branches of medical science. Dr. A. S. Warthin, professor of pathology in the University of Michigan, makes a suggestive comparison between the value of Roentgen irradiation and the administration of arsenic in the treatment of leukæmia. After an analysis of over 200 cases of leukæmia treated by Roentgen irradiation he arrives at the following conclusions. There is no positive proof of an absolute cure of leukæmia by this method of treatment, although a symptomatic cure occurs with remarkable frequency. Not all cases, however, respond to the treatment, even after "extended irradiation," but the earlier in the course of the disease the exposure to the rays is begun the more pronounced is the reaction of improvement. In all of the cases recurrence of symptoms eventually takes place and the fatal termination of the disease has in no case been averted. It is apparent, however, that the fatal issue is postponed and many of the patients have gained an extension of life varying from several months to one or two years. With regard to the use of arsenic, temporary improvement is also produced, but a fairly large number of cases do not respond to the drug, and, further, since the good effect of arsenic can only be obtained by pushing the drug to the limits of tolerance and continuing it indefinitely, it follows that the danger of arsenical poisoning must be considered. After reviewing the whole of the evidence Dr. Warthin is of opinion that a combination of the two methods of treatment affords the best means of delaying the fatal issue of leukæmia. A careful and systematic examination of the patient's blood should be frèquently made. An increasing diminution of the red cells is an indication for pushing the arsenic, while an increase in the number of white cells or a change in the proportion is a signal for renewing the irradiation.

Another article that will well repay perusal is by Dr. H. K. Pancoast, lecturer on skiagraphy, University of Pennsylvania, entitled "A Study of Gastroptosis from the Radiographic Standpoint." By means of numerous diagrams the various types of gastroptosis are well shown. This is a subject upon which definite knowledge has hitherto been wanting, and this paper denotes a valuable advance in the demonstration of the abnormalities which may occur. Professor G. Calmette writes on the Ophthalmo-Reaction to Tuberculin. He maintains that this test enables the practitioner "to reach with almost absolute certainty a diagnosis in various forms of tuberculosis when clinical and bacteriological examination fails to give a definite result."

Amongst other contributions to this volume are a Report of Cases of Perforation in Typhoid Fever Operated Upon at the Pennsylvania Hospital, by Dr. C. T. Mitchell, surgeon to the out-patient department of the Pennsylvania Hospital; Immunity and Vulnerability, by Dr. C. D. Palmer, emeritus professor of obstetrics and gynæcology, medical department of Cincinnati University; Right-angled Contraction of the Tendon Achillis as a Cause of Stumbling and Halting in Children, by Mr. A. H. Tubby; and Disorders of Sleep, by Dr. Purves Stewart.

The various numbers of "The International Clinics" generally contain many valuable papers, and the volume now before us well maintains the standard which charac terises its predecessors.

A Manual for Midwives. By C. J. NEPEAN LONGRIDGE, M.D. Vict., F.R.C.S. Eng., M.R.C.P. Lond., Pathologist and Registrar, late Resident Medical Officer, at Queen Charlotte's Hospital; Examiner to the Central Midwives Board, and Lecturer on Midwifery for the London County Council. London: J. and A. Churchill. 1908. Pp. 309. Price 3*s.* 6*d.* net.

IN this book designed for midwives Dr. Longridge has tried to write each sentence in such a way that it could not be misunderstood, and certainly we can congratulate him on the success with which he has carried out this endeavour. Of the many and various works which have been written for midwives during late years this is one of the simplest and the best. Dr. Longridge has had drawings made from specimens in the Museum of the Royal College of Surgeons of England of the pregnant uterus and thus he is able to refer his reader to the actual specimen itself if she is so fortunate as to be carrying out her studies in London. The ritual of the method of making a vaginal examination looks a little complex on first reading it, but this is an error, if error it be, on the right side, since over-elaboration of detail is not likely to do any harm and may well serve to impress the midwife, who perhaps is already in practice, when she contrasts what she possibly does in such a case with what the author tells her she should do. It is a pity that Dr. Longridge thinks it necessary to recommend the use of two antiseptic solutions—namely, lysol and perchloride of mercury—but we quite agree with him when he calls attention to the disadvantages of swabbing the vulva with a solution of the latter. The value of the book is increased by the addition of the rules of the Central Midwives Board, a short chapter on the early symptoms of cancer (an excusable digression in view of the importance of the subject), and a section on advice to mothers on the care of their children, published by the authorities of Queen Charlotte's Hospital. Altogether this is a most excellent manual highly to be commended.

Traité Pratique de Thérapeutique Infantile Médico-Chirurgicale. By Dr. PAUL LE GENDRE and Dr. AUG. BROCA. Second edition. Paris: G. Steinheil. 1908. Pp. 759. Price 15 francs.

THIS work, written by a physician and a surgeon, is a very complete manual of the treatment of children's diseases. It opens with a brief introductory consideration of the special features presented by disease in children and of the importance of feeding and other general measures as opposed to drug treatment. The first chapter then deals with infant feeding, and we are glad to find that no complicated methods of percentage feeding are commended. The second chapter is devoted to the child's surroundings—light, warmth, ventilation, and so on—as well as to general therapeutic measures, such as hydrotherapy, massage, and gymnastics. In the third chapter are discussed "general therapeutic indications," in which are included procedures such as purgation, sweating, diuresis, and so forth, the use of tonics, hypnotics, and antipyretics, the general hygiene of the sick room, serum treatment, and the notification of infectious diseases. In the fourth chapter methods of administration of remedies and the dosage suitable for

children are set forth. The second part of the book is in the form of a dictionary of treatment, alphabetically arranged. Illustrations are added where they are required. The individual articles are necessarily brief, but they are usually practical. We find, for example, that intubation is recommended in diphtheria as preferable to tracheotomy in hospital practice but not in private cases, in which constant supervision is impossible. The dosage of diphtherial antitoxin, however, is given in cubic centimetres, not in units—a mode of measurement which we can hardly commend. In enteric fever the regular administration of a saline purge every third day is advised by Bouchard, while Grancher relies on large doses of quinine, and the authors of the present work combine these modes of treatment. Tepid baths are used to reduce the fever. For hæmophilia the use of fresh animal serum both locally and hypodermically is said to be of great value. The book concludes with a number of prescriptions for various conditions and with a table of doses suitable for different ages. It affords a useful opportunity for comparing the practice in this country with that of our neighbours, containing as it does a very compact summary of the pædiatric procedures in vogue in France, and for this reason as well as for its general utility we commend this volume favourably to our readers.

Green's Encyclopædia and Dictionary of Medicine and Surgery. Vol. VIII: Physiology to Rhinolalia. London and Edinburgh: William Green and Sons. 1908. Pp. 588.

THIS Encyclopædia and Dictionary of Medicine and Surgery has now reached its eighth volume, and the articles in this instalment extend from Physiology (second part) to Rhinolalia. The second half of the monograph on Physiology, by Professor D. Noel Paton, occupies nearly 100 pages and includes a section dealing with the subject of hormones. The action of the hormones or "activators" yielded by the suprarenal bodies and other structures is well discussed and a good summary is given of the present knowledge on the subject. The thyroid gland and the parathyroids receive due attention and the conclusion arrived at by the author is that the nervous symptoms which follow ordinary thyroidectomy—the tremors, and so on—seem to be due to the loss of the parathyroids, while the metabolic changes are probably due to want of the internal secretion of the thyroid. Other important contributions to this volume are those on Pregnancy (in 11 sections), on the Puerperium (in six sections), and on Rheumatism (in four sections). Under the last-named heading are articles on rheumatism in children, rheumatoid arthritis, and chronic rheumatism. Dr. F. J. Poynton's remarks on acute rheumatism are well worthy of perusal. In discussing the "exciting cause" he expresses the opinion that one and not several different bacteria will prove to be the true excitant of this disease, but the peculiar poisons that are formed and the peculiar vital chemistry of the human tissues are as yet unknown. New articles have been added in which prescribing and methods of administering drugs are fully considered. A short communication also appears on the nature of radium and its physiological and therapeutical effects.

LIBRARY TABLE.

Archives of the Pathological Institute of the London Hospital (Sir Andrew Clark Memorial). Vol. I. London: Adlard and Son. 1908. Pp. 81.—This small volume contains 12 papers on various subjects by the workers in the pathological institute of the London Hospital and is a valuable record of good work. The first paper is by Dr. C. H. Miller, describing a case of chloroma which occurred in a child aged two years, the diagnosis having been made during life and being confirmed by necropsy. The case is of interest also in that a careful blood examination was made during life, showing a marked lymphocytosis of the large-celled type. Dr. Miller and Dr. J. B. Cleland contribute a short paper on two cases of primary carcinoma of the liver in infants. Two cases of syphilitic disease of the myocardium are recorded by Dr. Miller and Dr. R. A. Worthington. In both instances there was extensive interstitial fibrosis with gummatous deposit. The record of a case of splenomegalic polycythæmia, with an account of the necropsy, by Dr. R. Hutchison and Dr. Miller, has been reprinted from THE LANCET. A note on the condition of the large intestine in chronic lead poisoning by Dr. Worthington draws attention to the discolouration of the mucous membrane from the deposition of lead sulphide in the epithelial cells. The fact that this is limited to the large intestine is regarded as indicating that it possesses a special excretory (or absorptive) power with regard to lead. The same observer next records a case of dysenteric ulceration of the small intestine and another of acute perforating ulcer of the gall-bladder. A brief note on plasma cells in chronic staphylococcal abscess of the brain by Dr. Cleland follows. In a useful and instructive paper on Polioencephalitis Acuta, by Dr. J. Douglas C. White and Dr. Worthington, a typical case is described with necropsy and the microscopical appearances are detailed with great care and critically compared with those of acute anterior poliomyelitis. Dr. Miller contributes a preliminary report on the Histology of Gastric Ulcer, from which he concludes that the lymphoid tissue is a factor of great importance, that a gastric ulcer starts by the bursting of a lymphoid follicle, and that it is prevented from healing by the damage done to the vessels at the time of ulceration and by the fibrous condition of the basement membrane and submucous layer co-existing. A paper on Acute Hæmorrhagic Pancreatitis, by Dr. White, based chiefly upon seven cases observed at the London Hospital, is one of the most instructive in the book and affords a critical and suggestive contribution to the pathology of this interesting condition. The book concludes with the report of the Cancer Research scholar, Dr. Cleland. This paper contains a critical review of some of the recent work on the histology of malignant growths and of other aspects of the problems of cancer research.

The Treatment of Uterine Retro-deviations. By G. A. CASALIS, M.B., C.M. Edin., Gynæcological Surgeon to the Victoria Cottage Hospital, Wynberg. With 35 illustrations. Cape Town: T. Maskew Miller. 1906. Pp. 175.—This book is one of the first medical works to be published in South Africa. The author reviews very fully the treatment, both palliative and surgical, of uterine retro-deviations. He recommends that all such displacements producing definite symptoms should be treated. The plan of correcting a retroversion by the use of a sound or of a uterine repositor is condemned and the method of bimanual reposition, if necessary in the genu-pectoral position, is preferred. The chapter on the use of pessaries presents a clear account of these instruments but the impression conveyed to the reader is that Dr. Casalis is not really in favour of their use. He puts forward the theory that chronic uterine hyperplasia is a cause of the development of fibroid tumours of the uterus; hence the correction of uterine retro-deviations is of great importance so as to check any tendency to uterine congestion and the production of uterine hyperplasia. The second part of the book is devoted to a consideration of all the various surgical operations which have been devised for the purpose of treating these displacements of the uterus. The rules laid down for the correct choice of the particular operative procedure required are good and

helpful. No doubt this little work will prove useful to those who are unable to consult the larger text-books upon the subject. It is a pity that so many errors in the spelling of proper names should have been left uncorrected.

First-Aid to Medical Treatment of Tamils and Singhalese, for the Use of Tea and Rubber Planters and Estate Dispensers. By R. J. DRUMMOND, M.D. Edin. Lindula: Walker and Greig. 1908. Pp. 58.—The author of this book has undertaken what is always a difficult task, that of supplying a medical guide for the use of non-medical persons in places where professional aid is unattainable. He disclaims any desire to let his book "compete with, or be a substitute for, the medical service that the Government have inaugurated in Ceylon," and rests the sanction for it in irrefutable words: "Every experienced tea-planter knows that a neglected 'cold' often leads to pneumonia and death; that a neglected diarrhœa often ends in dysentery and death; and that a neglected sore often ends in blood-poisoning and death." Dr. Drummond has not always quite hit the happy mean between teaching too much and teaching too little. In the opening section on Malaria, for instance, he describes a course of treatment extending over six weeks, including prescriptions containing arsenic, iron, and strychnine. Surely such after-treatment appertains rather to the medical officer than to the lay minister of first-aid. Nor would the latter profit much by reading of bronchitis: "If a stethoscope be applied to the chest the noise in the lung will be like a bellows blowing or the crackling sound of a distant fire on grass patnas." However, the book contains a trustworthy and useful symptomatology and guide to treatment of the commoner diseases written in plain language, although it must be confessed in terribly slipshod grammar. The treatment of cholera and dysentery is very thoroughly described in what are perhaps the best sections in the book. There is a very brief account of surgical first-aid; and an interesting section, headed "Medico-Legal," on native poisoning practices and caste punishments, which includes a terrible account of infanticide, "a very common crime in Ceylon," affords a startling criticism on the protection afforded by the British Raj to the caste-ridden native. Dr. Drummond's little book should command a wide circulation in the Ceylon tea-gardens, and in intelligent hands will prove of considerable utility. The preface shows it to have been written in response to a request for such a work from those to whom it is addressed.

JOURNALS AND MAGAZINES.

Annals of Tropical Medicine and Parasitology, University of Liverpool. Vol. I., No. 4. Illustrated. London: Williams and Norgate. Pp. 71. Price 7*s.* 6*d.* net.—The investigation and suggestions for preventing the so-called "Canary fever," by Mr. C. E. Walker, form the first paper in this number. We have already printed an abstract of it in THE LANCET of June 13th, p. 1707. An interesting study of a somewhat rare disease caused by a parasitic worm, "porocephalus moniliformis," by Dr. A. Broden and Dr. J. Rodhain from the Leopoldville Laboratory in the Congo Free State, is contained in the second paper. The patient whose case is described showed extreme tenderness in the left hypochondriac region and parts of the epigastrium. The liver was not enlarged, but there was some slight engorgement of the base of the left lung. He was extremely constipated and vomited a certain amount of blood. After about four weeks' illness he died quite suddenly. The intestine and peritoneal cavity were full of some long bacilli which were anaerobic but which have not been identified. Only one larva of the worm was found, but many hæmorrhagic patches and pockets were found in the small intestine. A detailed description of the worm is given. Mr. Robert Newstead contributes a paper on the Habits, Life-Cycle, and Breeding Places of the Common House Fly. The results of the investigations described should prove very valuable, both from an economic and a scientific standpoint. The chief breeding places of the house fly apparently are—middensteads containing horse manure only; middensteads containing spent hops; and ashpits containing fermented material. Mr. Newstead found that in stable-yards where poultry were kept and allowed to wander about freely flies were kept under to a very great extent, and that while both open and closed ashpits were infested with the larvæ the flies gave preference to the closed receptacles. The non-breeding places were—middens containing excessively moist and non-fermented cow-dung; patent ash-bins; refuse in ashpits saturated with water; and human excreta lying in courts and passages. After dealing with the life-cycle of the common house fly the author summarises his observations as follows: That covered ashpits and middens were as badly infested as those which were open. That house flies breed in all temporary collections of fermenting matter. That house flies breed in relatively small numbers in ashpits where no fermentation takes place. That they do not breed in ashpits which are emptied at short intervals or in the patent bins. That the use of disinfectants in ashpits does not prevent the flies breeding in such receptacles. That very dry or excessively wet ashes or moist cow-dung does not harbour them. That the life-cycle of the fly in all kinds of fermenting materials is reduced to the minimum period of from 10 to 14 days, and that in the absence of such artificial heat the cycle may occupy a period of from three to five weeks or more, according to the temperature of the outside air. That house flies do not depend entirely upon excessively warm weather for breeding purposes, though in hot seasons they would breed much more rapidly in non-fermenting materials and their numbers under such conditions would be greatly increased. He makes various suggestions for reducing the house flies to a minimum. He lays great stress on the necessity of preventing children from defæcating in courts, passages, or stable middens. The danger lies in the overwhelming attraction which such fæcal matter has for house flies, which latter may afterwards come into direct contact with man or his foodstuffs. They may, as Vedeer puts it, "in a very few minutes ..... load themselves with dejections from a typhoid or dysenteric patient, not as yet sick enough to be in hospital or under observation, and carry the poison so taken up into the very midst of the food and water ready for use at the next meal. There is no long roundabout process involved." The use of sun-blinds in all shops containing food which attracts flies would largely reduce the number of flies in such places during hot weather. Small fruiterers' and confectioners' shops, as a rule, are not shaded by sun-blinds, and in their absence flies literally swarm on the articles exposed for sale. The final paper in the number is on Malaria and History, by W. H. S. Jones, M.A. It constitutes an interesting study of the history of malaria in ancient Greece and Rome. The author points out that disease has exercised considerable influence on the history of mankind and uses malaria as an illustration of this fact. The conclusion arrived at from the study of the history of both these races is that the decline was in both cases brought about to some extent, at any rate, by malaria. The paper is of great interest, and though some very large deductions are made from the premisses Mr. Jones argues quite fairly.

Proceedings of the Royal Society of Medicine, July, 1908.—The various sections in this number are chiefly occupied with reports of cases too numerous to be mentioned

individually. In the dermatological section Dr. E. G. Graham Little contributes a careful study of Granuloma Annulare, in which he groups under a single heading a series of cases which have been described under varying titles by different observers. In the laryngological section Dr. P. Watson Williams reports a remarkably successful external osteoplastic operation in a case of Malignant Growth of the Septum and Naso-pharynx. Amongst many other interesting cases may be mentioned one of hysteria with very unusual laryngeal manifestations, reported by Sir Felix Semon, and another of probable combination of laryngeal tuberculosis and syphilis by the same observer. In the medical section Dr. A. M. Gossage contributes a paper on the Tone of Cardiac Muscle, illustrated by many tracings, which embodies some original conceptions and includes observations upon dilatation, the extra-systole, and the action of digitalis. The neurological section is occupied with cases reported by Dr. H. G. Turney, Dr. G. Ogilvie, Dr. H. Campbell Thomson, Dr. Wilfred Harris, Dr. Leonard G. Guthrie, Dr. D. W. Carmalt-Jones, and others. The obstetrical and gynæcological section also contains several case reports, including one by Dr. Cuthbert Lockyer on Pregnancy in the Wall of a Tubal Sac. Dr. J. H. Teacher contributes, in conjunction with Dr. T. H. Bryce, an abstract of the Descriptive Part of a Memoir on the Examination of a Human Ovum of the probable age of 13 to 14 days. In the odontological section Mr. Arthur H. Evans contributes a case of Diffuse Fibromata of the Gums. The otological section includes cases and specimens recorded by Dr. P. McBride, Dr. A. Logan Turner, Mr. H. Wade, Dr. W. Permewan, Dr. J. M. Darling, and others, whilst the surgical section is concerned with an account of the reduction of an old subcoracoid dislocation of the humerus by excavating the glenoid cavity through a posterior intermuscular incision by Mr. W. G. Spencer; notes on cases of Cystic Tumour of the Suprarenal Body, including one recorded by Greiselius of Vienna in 1670, by Mr. A. H. G. Doran; and two difficult cases of fracture by Mr. Rushton Parker.

MEDICINE AND THE LAW.

"Dairying" in a Stable.

THE health authorities at Hastings are to be congratulated upon being successful in not only putting an end to a serious fraud that was being perpetrated upon the inhabitants of that town, but in bringing before the justices the perpetrators after they had only been operating for a space of three weeks. Two men, George Cooper and Henry Dagnell, between August 13th and Sept. 5th, purchased from retail premises at Hastings no fewer than 654 pounds of margarine in small quantities at a time. They took their purchases to a stable which they had hired and here they made the margarine up into half-pound pats (with scales which were three-quarters of an ounce against the purchaser), afterwards hawking it round the town as genuine "Devonshire" butter. Their story was that they had just come from the country with the "butter" and their general attire was quite consistent with this statement. But purchases came to be made for the purpose of analysis, and the result was that the so-called "Devonshire butter" was found to be nothing more nor less than margarine. A warrant was secured for the arrest of the two men, and within a very few hours both men were sentenced to three months' hard labour without the option of a fine for obtaining money by false pretences. It is such sentences as these that are needed in cases of gross fraud where foodstuffs are concerned, and the justices, no doubt, were influenced by the aggravating circumstances in the case. The margarine was kept and "prepared" for sale in a stable which was actually being used as such, a pony being in the stall and manure lying about the floor at the time of the inspector's visit. To have proceeded against these men by summons would probably have resulted in them not being found, the pony and cart at the stable being quite capable of carrying them and their "dairying" utensils on to some other town where the same nefarious business might be carried on, and, perhaps, for a longer period than at Hastings.

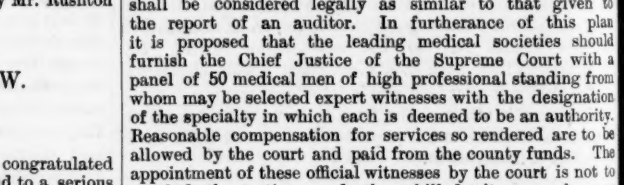
Reform in Expert Medical Evidence.[1]

The Massachusetts Medical Society is endeavouring to procure legislation to bring about a change in the present conditions of medical expert testimony in the United States. Apart from the possible combination of unworthy lawyers and unworthy medical men, examples of which have been furnished in America, there is often witnessed the sorry spectacle of honest and reputable physicians arrayed on opposite sides in a law court and made to appear to give sworn opinions in quite conflicting manners concerning subjects upon which but one view would exist were the proceedings conducted by a private consultation among the witnesses. A distinguished judge in Massachusetts is reported to have observed lately: "If there is any kind of testimony that is not only of no value, but even worse than that, it is in my judgment that of the medical expert." To ameliorate this state of affairs it is suggested to enact that the court may on its own motion and at the request of either of the contending parties appoint one or more medical witnesses of approved training and experience to give expert testimony on any case under consideration. The Bill suggested proposes that such a report shall be considered legally as similar to that given to the report of an auditor. In furtherance of this plan it is proposed that the leading medical societies should furnish the Chief Justice of the Supreme Court with a panel of 50 medical men of high professional standing from whom may be selected expert witnesses with the designation of the specialty in which each is deemed to be an authority. Reasonable compensation for services so rendered are to be allowed by the court and paid from the county funds. The appointment of these official witnesses by the court is not to preclude the testimony of other skilled witnesses who may be called privately. The passage of such a measure by the legislature would revolutionise the present undesirable conditions under which expert evidence is produced; the medical expert would then be what his designation implies and would cease from being merely a medical advocate. The Bill is said to have the cordial endorsement of the best element of the legal and medical professions in the State of Massachusetts.

[1] A motion for reform carried by medical men in Boston was reported in THE LANCET of June 6th, 1908, p. 1651.

New Inventions.

A NASAL SNARE.



THIS snare has been made for me by Messrs. Mayer and Meltzer, 71, Great Portland-street, London, W. The chief feature is the ease and rapidity with which the end can be threaded with wire. The point of the snare is small and rounded, so that the wire retains its loop and can be used for many polypi. The central od is drawn straight back instead of over an angle as in some other forms. The snare is light and strong and has been proved efficient by everyday use in hospital.

WILFRID GLEGG, M.D., C.M., M.R.C.P. Edin.,
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THE LANCET.

LONDON: SATURDAY, SEPTEMBER 19, 1908.

The Sixty-Second Report of the Commissioners in Lunacy.

THE statistics contained in this report are not materially different from similar statistics of the last few years and there is a continued increase in the number of insane persons known to be under care. The number of such persons on Jan. 1st, 1907, was 123,988 and on Jan. 1st, 1908, was 126,084, being an increase of 2096. As, however, the annual average increase for the ten years ending with 1907 was 2411 the increase for 1907 was less by 315 than the annual average of the decennium. It was found that the ratio of notified insane persons to the estimated population was on Jan. 1st, 1908, 1 to 280, or 35·67 per 10,000. This is an increase on the ratio of the year before of 0·53 per cent. and an actual numerical increase of nearly 1·7 per cent. At the beginning of 1898 the ratio of insane persons to the estimated population was 32·35, so that since then it has increased by as much as 10·2 per cent., the proportion of insane persons having risen from 1 in 309 to 1 in 280. The increase in the whole population has been 12·2 per cent., while in the number of the insane it has been 23·7 per cent. Examining the ratio for a larger number of years we find that while the estimated population increased by 57·2 per cent. between the years 1869 and 1907 the total number of the known insane increased by 137·1 per cent. The ratio of the insane to the population was at the beginning of 1869 23·93 per 10,000 and on Jan. 1st of this present year 35·67 per 10,000, being an increase of 49 per cent. The ratios for first admissions were 4·92 per 10,000 in 1898, 5·76 in 1902, 5·16 in 1906, and 5·18 in 1907. The number of patients at the beginning of 1907, not counting those in idiot establishments, in institutions, and in single private care, was 98,521, being an increase of 32 per cent. on the number under similar care at the beginning of 1897. During these ten years the numbers in county and borough asylums had increased by 36·6 per cent., in registered hospitals by 3·6 per cent., in the State asylums by 26·4 per cent., and in single care by 17·3 per cent.

It appears that nearly three-fourths of the number of patients annually certified are suffering from their first attack, while the remainder represent recurrent cases. The report points out that it is highly probable that, at any rate among certain classes, the too speedy return to old avocations and the environment under which the patient originally broke down contributes to the recurrence of the malady. It may be that at some future date it will be more widely recognised to be desirable that the patient should be subjected to a more careful supervision on his discharge from the asylum. To this end it may be found necessary to establish convalescent homes where the recovery of patients may be still further insured. The After-Care Association, unfortunately only in a very small way, undertakes at the present time to do what it can for discharged patients and deserves far more support from the public than it receives. It is quite possible that a considerable extension of this work might contribute in no small degree to a decrease in the amount of insanity in this country.

We are happy to note that the Commissioners are very decidedly of opinion that the asylums should be utilised to further the scientific study of insanity and higher medical education. Too often the asylum is regarded rather as a place of detention where persons who are a nuisance to the community are confined, instead of a place of refuge for the sufferer where he may obtain appropriate treatment for his disease. We cannot, however, but feel that there are indications that the public are beginning to regard insanity as a disease which is to be studied and treated in precisely the same way as are those diseases in which disordered function is more obviously the result of organic alteration of the tissues. A substantial part of this excellent change in public opinion must be attributed to the earnest scientific labours of those working in this branch of our science and art, their labours involving investigations in the phenomena of mind and in the structure and function of its delicate instrument and constant servant, the brain. But perhaps a yet larger factor in the production of this change has been the work of the Commission in Lunacy. From a disorderly and sometimes disgraceful chaos there has been evolved under its guidance a systematisation of philanthropic effort for the amelioration of the condition of the insane. The work of the Commission is now of such extent that it cannot be efficiently performed by the present number of the Commissioners. That the best that can be done is being done there can be no doubt from a perusal of the report now before us. But times have changed and the large increase of the insane population demands a larger Commission and one in which less prominence shall be given to what we may call its police functions and more to the more strictly medical aspects of the work. We trust that the adoption of some of the recommendations of the Royal Commission on the Feeble-Minded[1] may eventuate in such an improvement.

Huntington's Chorea or Chronic Progressive Chorea.

THIRTY-SIX years ago Dr. GEORGE HUNTINGTON, then a recently qualified practitioner of but 22 years of age, at the end of a paper on the subject of chorea in childhood, gave a description in a few strikingly graphic sentences of that peculiar form of chorea which has since that time been generally called after him, a description so complete and so distinctive that from a clinical standpoint little or nothing has since been added. It is always interesting, stimulating, and instructive to study the history of any scientific advance and to trace the evolution of knowledge in regard to it. We have received an interesting pamphlet[2] which, though of modest dimensions and of unpretentious character, is a very

[1] See p. 890 of our present issue.

[2] Neurographs, vol. i., No. 2. Huntington Number. Brooklyn, New York: Albert T. Huntington. 1908.

valuable and interesting study of Huntington's chorea. A brief biographical sketch illustrated with two portraits is given of Dr. HUNTINGTON who happily is still living and engaged in general practice. He is of English ancestry, being descended from SIMON HUNTINGTON who left Norwich in 1633. He has also had the advantage of a medical heredity, his father and grandfather both having practised medicine in Easthampton, Long Island, at which place Dr. HUNTINGTON, after qualification in 1871, joined his father in practice. Many of the families in this district were of old New England stock and among them intermarriage was not infrequent owing to the comparative seclusion in which they had lived. Among these families there existed a hereditary disease which formed the subject of Dr. HUNTINGTON'S paper. The condition had been recognised by his grandfather, Dr. ABEL HUNTINGTON, and the cases had been classified by his father, Dr. GEORGE LEE HUNTINGTON, and the manuscript of the original paper was carefully revised by the latter. In the pamphlet to which we have referred a reprint is given of this original description, and it has been well described by Professor W. OSLER as "the really graphic account he has given in a few paragraphs of the salient features of the disease." In this paper stress was laid upon three points in connexion with it—namely, its hereditary character ("an heirloom from generations away back in the dim past"), the associated tendency to insanity and suicide, and the fact that it only manifests itself as a grave disease in adult life—usually between the ages of 30 and 40 years. In connexion with the manner of its hereditary transmission the peculiar fact was brought out that if a generation in one of the affected families escapes the disease the thread is broken and the subsequent offspring remain free from it. The late period at which the disease, although obviously hereditary, appears was also mentioned as a striking feature when compared with most other diseases which are transmitted hereditarily, where the taint usually makes itself apparent at a more or less early age.

A number of papers written specially for this "HUNTINGTON Number" by various authorities are included. The first of these is in German and is contributed by Professor ADOLF STRÜMPELL of Breslau, who gives his experience of the disease in Germany. He states that the condition is one of great rarity in that country and that he has only seen about half a dozen cases. He gives brief details of two of these which have been seen by him at Breslau and refers to a third patient in whom the early movements were mistaken for mannerisms but who eventually became insane. Professor STRÜMPELL in this connexion lays stress upon the peculiar associated movements, such as grimaces, gesticulations, and bizarre gestures, which occur in addition to the actual choreic twitches. He also mentions a condition of hypotonus analogous to that observable in Sydenham's chorea. A paper in French is contributed by M. LANNOIS and M. PAVIOT on "The Nature of the Histological Lesion in Huntington's Chorea," in which some interesting observations are recorded concerning the pathology of the disease. The post-mortem appearances observed in a case of Huntington's chorea are described and the results of the histological examination of the brain by means of Nissl's method are detailed. It was found that the zone of the nerve cells of the motor region of the cortex was thickly studded with small blue granules, some of them appearing to be on a plane superficial to that of the nerve cells. Under the high power these granules could be differentiated from the neuroglia cells by their smaller size and by their staining reactions. Often three or four might be seen around a single nerve cell, some of them appearing to penetrate the protoplasm. This appearance is due, however, to their being on a different plane to the cell. The nerve cells themselves were found to present a condition of diffuse chromatolysis; their nuclei were often indistinct, the nucleolus alone being apparent. A similar infiltration with these granules was found about the cells of the basal ganglia. In a previous paper[3] M. LANNOIS and M. PAVIOT have expressed the opinion that these appearances are a result of a hereditary malformation of the neuroglia of the cerebral cortex. Since then, however, they have observed similar appearances in other conditions, including myoclonus, and they now suggest that these conditions are due to a chronic encephalitis or meningo-encephalitis producing lesions which are irritative rather than destructive, and they suggest that the hereditary factor in Huntington's chorea consists in a vulnerability of the cortex, or a predisposition to chronic encephalitis after an infection or an intoxication. Dr. A. R. DIEFENDORF of Yale gives an interesting study of the mental symptoms of the disease, the result of the personal observation of 14 cases and the analysis of the history of 14 others supplied to him by physicians and relatives. He divides the mental symptoms into three groups—cases with "gradually progressive dementia; cases with crazy symptoms; and cases with symptoms of congenitally defective constitution." He states further that the second and third of these are usually only "episodes in a psychosis which sooner or later ends in a progressive dementia."

The remaining papers are mostly devoted to the history of the subject. As so frequently happens in regard to the descriptions of newly recognised diseases, the priority of Dr. HUNTINGTON'S observations has been called in question, and it is now generally recognised that the disease had been described by three observers before 1872, the year in which his own paper appeared.[4] The first description which can be traced is that of the Rev. C. O. WATERS, M.D., of Franklin, Delaware County, New York. He appears to have been a man of varied interests and activities and to have left the practice of medicine for that of the Presbyterian ministry. His only contribution to the subject was a letter written to Dr. DUNGLISON and published in his "Practice" in 1842, in which the onset in later life, the hereditary character, and the incurability of the malady were described. The second description was given by Dr. C. R. GORMAN in an inaugural dissertation presented to the Faculty of the Jefferson Medical College of Philadelphia in 1848 and referred to in the third edition of DUNGLISON'S "Practice." The dissertation

[3] Revue de Médecine, March 10th, 1898.
[4] Medical and Surgical Reporter, Philadelphia, April 13th, 1872.

itself has unfortunately been lost, or at any rate cannot be traced. The third account of the disease was given in an article by Dr. IRVING W. LYON published in the *American Medical Times* of Dec. 19th, 1863, with the title, "Chronic Hereditary Chorea." He did not indicate the locality in which his cases occurred but seems to have recognised all the general features of the disease. It is thus obvious that Dr. HUNTINGTON'S observations were not the earliest record of this disease, but his was the first account to refer to the locality of the cases described and his paper first drew general attention to the disease and for this he deserves the credit which he has received. Various alternative names have been suggested for the disease, of which perhaps the best is chronic progressive chorea, but popular usage, a very cogent factor in matters of nomenclature, has stereotyped Dr. HUNTINGTON'S name in connexion with the disease, and Huntington's chorea it will probably remain until a rational and universal system of nomenclature is evolved. Several other papers are devoted to the historical aspects of the disease and Dr. F. TILNEY refers to one family in which the chorea strain may be traced back to colonial Connecticut, giving a known line of descent of nearly 200 years. Dr. S. E. JELLIFFE gives a preliminary report of his investigation into the relationship of the various American groups of cases to one another. He describes three groups: the first, the Long Island, or Easthampton group; the second, the Bedford group in Bedford, Westchester County, New York; and the third, the Wyoming group. The "HUNTINGTON Number" contains also a paper by the editor, Dr. WILLIAM BROWNING, on the general distribution of the disease; he states that the disease has been described in every country in Europe (with the possible exceptions of Turkey, Norway, and Sweden), in the West Indies and South America, as well as Canada, and in all parts of the United States. There is no known colour or racial difference, since cases have been recorded in negro families. The pamphlet concludes with a very useful bibliography extending to more than 200 references. This is a very interesting and valuable work and the editor is to be congratulated upon its production.

Medical Remuneration.

IF Wisdom be justified of her children it is not to be doubted that the "silly season" may in like manner be justified of hers, or that her presence with us this year has been adequately signalised by an exceptionally foolish correspondence, conducted not only in the columns of our esteemed contemporary the *Daily Telegraph*, but also in those of journalism of a less distinguished and responsible kind. The subject of discussion has been the right of medical practitioners to refuse their services to persons unable or unwilling to pay for them—a right which at first glance would appear to be not only unquestionable, but to rest upon the elementary principles of honesty expressed in that utterance of the highest authority which pronounced the labourer to be worthy of his hire. The text of the correspondence was furnished by the report of an inquest held last month by Mr. SCHRÖDER on the body of a man found bleeding by his landlord, who thereupon "hurried to a medical man" and was told by him that he would not attend unless his fee of 5*s*. were first paid. The witness refused to be responsible for the payment, the medical man did not go, and the patient, who had cut his own throat, was conveyed by the police to a hospital, where he ultimately died. The coroner sensibly observed that "of course" medical men are not bound to attend without payment, and added that he had recently been told of one who had attended 23 cases of supposed emergency without first demanding his fee, with the result that he had received it in respect of only two of the number. In the particular case before the coroner the emergency did not appear to have been very great, for the man lived to be taken to a hospital as described and ultimately died there from delirium tremens. A verdict was returned in accordance with the evidence, and so the matter would have rested had it not been for the gush of letter-writing which it called forth. Among the writers was Miss E. N. DAVIES, who drew a curious and quite imaginary parallel between a medical man summoned to a case of attempted suicide and a miner summoned to assist at the rescue of comrades from a pit. Miss DAVIES was unable to perceive that the miner goes to the aid of his comrades because he is liable to be himself in similar straits at any time, and thus to require from them help of the same kind as that which he is ready to render. She also misstates the case in saying that the appeal to the medical man was made by a "friend" of the patient instead of by his landlord. It appeared from the evidence that the "friendship" was at least not sufficient to bear the strain of a demand for 5*s*., and it may fairly be assumed that if the messenger, whether friend or landlord, felt no assurance of being repaid to this extent, the medical man was fully justified in a similar degree of scepticism. Miss DAVIES, however, was not the only person impelled to write upon the subject; and a correspondence has ensued which, among other things, has borne striking testimony to the general benevolence and charity of the members of our profession.

The fact nevertheless remains that this benevolence and charity, which we should grieve to see curtailed in their application to proper objects, have for many years been so systematically abused that there would be considerable justification for a very resolute stand against the light in which the payment of medical men has come to be regarded by large sections of the public. Of the nature of this light there is abundant evidence in the correspondence to which we have referred. It is plain that medical men have so accustomed the public to regard illness as an "emergency," in which the sufferers are morally entitled to aid from the first person at hand who is competent to render it, that the correlative title of the helper to his remuneration has to a certain extent been suffered to pass out of sight or, at all events, to be regarded only as a secondary consideration. There are, no doubt, circumstances in which this view might be justified, as in serious accidents involving many people and in which the first thing to be thought of would be the rescue of the sufferers or the treatment of the injuries which they had sustained. The view, nevertheless, is quite inapplicable to the ordinary events of illness or to the ordinary calls which are made upon the time and attention of practitioners. Real emergencies, conditions

in which prompt medical aid might save life, are comparatively rare in practice, and when they occur are often the consequences of previous neglect on the part of the patient or his friends. Hundreds of people, especially among the poor or among the lower middle classes, will neglect even serious illness until they suddenly become frightened, and then they run for the nearest medical man, with little regard either to their means of paying for his services or to the truthfulness of the assertions by which they induce him to dislocate the natural order of his work. Many such people are not intentionally dishonest, they are only ignorant and panic-stricken; and the profession itself is not free from blame in relation to the attitude which they assume. Some of the letter-writers to whom we have referred attribute the facility with which medical men give credit to untrustworthy persons to the amount of competition for practice which generally exists; but we think this view of the case is at least greatly exaggerated, even if it be not altogether mistaken. The truth is, we believe, that medical men, like other skilled persons, take genuine pleasure in the exercise of their skill, and in the consciousness of the relief brought by their presence to frightened sick persons and to their friends. Their first impulse is to pursue their calling, and the consideration of how or when or by whom they are to be paid is usually little more than an afterthought.

Such a state of feeling as this, while it explains alike the ordinary routine of medical conduct and the testimony borne by a large number of correspondents to the usually unstinted benevolence of the profession—testimony which the daily life of almost every practitioner would confirm—is manifestly much exposed to exploitation by the dishonest and the designing. The profession would, we think, be well advised in the adoption of any well-considered principles by which its members would be protected, while, at the same time, its brilliant record of public usefulness would be preserved and handed down. Much might be done in many localities by judicious coöperation among practitioners, and by associated resistance to the endeavours of clubs, or societies, or public authorities, or even individuals, to create and to trade upon professional rivalries or jealousies. Much might be done in the direction of educating public opinion and of producing a conviction that if it be right that medical assistance, without reference to payment, should be forthcoming in every real or fancied emergency, the duty of so providing should not be confined to the medical profession but should be shared with them by the rest of the community. This is already done to some small extent in the cases of parochial medical relief and in those in which medical aid is summoned by the police, and the principle would admit of easy extension to all real emergencies. If it be the duty of the members of the medical profession to stand prepared, as public servants, to deal with unforeseen conditions in which their skill is needed, it is equally the duty of the public to see that such service does not go unrewarded by reason of the poverty or the dishonesty of the person to whom the unforeseen occurs. In ordinary cases of illness there does not appear to be any equivalent obligation, and the profession may reasonably be expected to protect themselves to a greater extent than, we fear, they are accustomed to do at present. It is perhaps less troublesome to attend the call of a shifty or dishonest patient than it would be to refuse, but there are many circumstances in which a practitioner would be fully justified in thinking of the general interests of his profession as well as of his own, and in which a demand for cash payments as a condition of attendance would serve as a wholesome lesson, the effects of which would not be limited to the house in which it was administered. The facility with which some medical men give credit is in many cases a direct inducement to dishonesty.

Annotations.

"Ne quid nimis."

POOR-LAW GUARDIANS AND THE MIDWIVES ACT.

WE have referred previously to a serious difficulty arising out of the working of the Midwives Act to which a medical man called in by a midwife to a case of difficult labour is liable, namely, the difficulty of obtaining an adequate—or indeed any—fee for his work, and we have noted the action of several boards of guardians which have taken upon themselves the responsibility of meeting legitimate medical charges in a more or less liberal spirit. In March last the London and Counties Medical Protection Society circularised the 648 boards of guardians in England and Wales, stating the views of the society on the matter as expressed in a report of its Midwives Committee and asking the various boards to express their opinion, bearing in mind the provisions of Section 2 of the Poor-law Amendment Act, 1848, which are applicable to the payment of medical practitioners called in by midwives, and which run—

> It shall be lawful for the guardians of any union, if they think proper, to pay for any medical or other assistance which shall be rendered to any poor person on the happening of any accident, bodily casualty, or sudden illness, although no order shall have been given for the same by them or any of their officers or by the overseers.

Up to July 30th the society had received replies from 152 boards of guardians, and we have been enabled to read 140 of these. An analysis shows that 56 were to the effect that no action was to be taken in the matter or that its consideration was deferred; of these replies a few were from unions in which there are no midwives practising, and some others contained a direct refusal from boards to accept any responsibility of providing medical assistance for midwives altogether. Eight boards consider that their own district medical officers can give the requisite attendance, and most of them have arranged to pay these officers the same fees as they already receive when they attend confinement cases under a midwifery order from a relieving officer. A good many others are willing to pay a medical man called in by a midwife, provided that the services of the district medical officer are not available and that the case is one of genuine poverty. Others express their willingness to pay a fee with only the latter stipulation and these two classes together comprise 60 replies. 16 boards are prepared to treat each case as it arises on its own merits. Of the 60 that are willing to pay, 7 accept the Local Government Board scale of £1 or £2, according to circumstances, and the fees promised by the others range from a maximum £2 for operation cases, or for those requiring the attendance of a second medical man, to the impossible minimum sum of 5s. From a half to one guinea, according to the difficulty of the case, is a very usual scale. In some cases the higher fee is fixed to include subsequent attendance by the medical

man and in a few mileage is considered. Richmond's offer of 1½ guineas for every case is perhaps the most satisfactory. The Bromley union, on the other hand, offers only 10*s.*, the fee which its district medical officers now receive. The circular prompted the Risbridge guardians to write to the Local Government Board urging that it would be better for both patients and medical men if an Order were to be issued making the guardians responsible for the payment of the fee fixed by Order, and giving them power to recover it from the husband or natural guardian of the woman in suitable cases. Taking the replies as a whole, they indicate that the boards of guardians of the country are at least leavened with the principles of equity in this matter, and we hope to see many more take the action which is legally open to them and thus obviate a grave injustice to medical practitioners and to indigent mothers. Medical men practising in unions the guardians of which refuse to accept the responsibility of paying them fees for arduous services are liable to be attacked for inhumanity if they refuse to attend a pauper on a midwife's summons, or to go entirely unrewarded if they spend the best part of a night in anxious and devoted attendance. We are in general agreement with the recommendations of the Midwives Committee of the London and Counties Medical Protection Society on the receipt of these replies. They run as follows:—

1. That it should be clearly understood that no doctor shall be expected to attend on the summons of a midwife unless he chooses to undertake such work at the fees guaranteed by the guardians, or others.
2. That the fees of doctors summoned by midwives should be paid to them in all cases without requiring from them any proof of the poverty of the patients, any necessary inquiry being made by the boards of guardians, or others, who should pay the fees of the medical practitioners without demur, and then take such steps as they might think fit to recover the fees when the patients are able to pay them.
3. That when a doctor is summoned by a midwife to operate or attend on a woman in a serious emergency he should be the judge as to whether or not he should visit the patient again, and, if so, how often, and that for these visits the doctor should be entitled to the usual fees in addition to the fee for the operation or attendance.

These resolutions were adopted by the council of the society on Sept. 2nd, together with other recommendations, the chief of which fixes the fee of 1 guinea as the lowest that should be received by a medical practitioner for attendance on a confinement case and suggests that not less than double this amount should be paid in cases of special difficulty.

THE EYESIGHT OF SCHOOL CHILDREN.

WE publish in another column some interesting statistics of the defects of vision found in the children attending certain army schools in India. If confirmation were needed they emphasise the importance of such investigations. Indeed, where education is compulsory a proper regard for the hygienic conditions under which it is carried out becomes a duty which can no longer be ignored. The trend of modern medicine is more and more in the direction of prophylaxis and it cannot be doubted that in the future the medical inspection of school children will be greatly extended in scope. The problem has already occupied much attention by the London County Council. The advice of their education sub-committee has not yet been confirmed nor have definite steps been taken to put it into practice. It is to be hoped that there will be no undue delay, for the ophthalmic hospitals and departments of London are again being flooded with refraction cases from the Council's schools. Special attention may be directed to the suggestion in the report which we publish that the eyes of all children should be examined by a medical officer for early signs of squint and other visual defects before school attendance is commenced. Though this may be a counsel of perfection where large masses of the poorer classes are concerned, general practitioners might with advantage take note of it. The amount of pain and discomfort which might be spared by a periodic examination of children's eyes, teeth, and general health is patent to every medical man, but is far too little appreciated by the public at large.

SPASTIC CONSTIPATION.

THE condition of spastic constipation, or spastic obstipation as it is often called by German writers, is one which has not received the attention in this country which its frequency warrants, the more so that its treatment is entirely different from that of the ordinary or atonic form of constipation. We have received a paper from Dr. Gustav Singer, a translation of his article in the *Wiener Klinische Wochenschrift*, giving an interesting account of this condition. He states that its recognition has only been comparatively a recent matter and he refers to a paper by Cherchevsky, published in 1883, as giving an account of six cases. Cherchevsky recognised that aperients tended to aggravate the condition and that relief could be afforded by opiates and belladonna. Fleiner, Hackel, Kraus, and Westphal all made observations on cases of this type. Dr. Singer, in recording his own observations, differentiates two forms of spastic constipation, a symptomatic variety occurring in association with diseases of the intestines or other abdominal organs, and an idiopathic or nervous form occurring in association with neurasthenia, hysteria, and other conditions of the nervous system and in some persons independently. The symptomatic form occurs not only in connexion with local lesions of the intestine but also with chronic disease of the internal genital organs of women, with chronic disease of the prostate in men, and with local disease of the rectum, such as fissure, hæmorrhoids, and proctitis, in both sexes. A similar condition is said to be a constant association of nephritic colic and to be not infrequent in cases of hyperchlorhydria. The symptoms of spastic constipation differ widely in different cases, and many of them are the result of the coincident dyspepsia and neurasthenia. In regard to defæcation the patients complain of the defective action of the bowels and usually notice that the amount evacuated is very small. The act of defæcation is associated with great straining and exertion. There is frequently a false desire, causing ineffective attempts to effect the emptying of the bowels. The patients often complain that they can feel the fæcal matter in the intestine but are unable to void it, or they sometimes have frequent small evacuations at short intervals—a condition which is termed "fragmentary evacuations" by Boas. This is compared to frequency of micturition by Dr. Singer. On examination the abdomen is often found to be in a scaphoid condition, and on palpation sections of the large intestine may be found to be contracted to form cord-like masses. Sometimes the descending colon may be felt as a firm, sausage-shaped, cylindrical body, sensitive to pressure. More rarely the same condition may be felt in the right iliac fossa, but as a rule the cæcum is felt as an inflated, pear-shaped, elastic body. These areas of contraction may be felt to alter in position and may be noticed in one part of the large intestine at one time and at another part on a subsequent examination. Dr. Singer states that the obstruction to the passage of the fæces may be so marked as to simulate intestinal obstruction—a condition which has been called by Leube "ileus spasticus." It is always important to examine the rectum in these cases; in purely nervous cases no local condition is found sufficient to account for the symptoms. On using a bougie, after overcoming the resistance of the external sphincter and passing on the bougie a ring-shaped obstruction is encountered, the contracted internal sphincter, which Dr. Singer regards as the site of the chief contraction

in these cases. The examination of the fæces is also important. Usually the quantity passed at each action of the bowels is small and it may consist of pulpy fragments and small lumps. Stools of small calibre, ribbon-like or thin as pencils and grooved, are very characteristic. Sometimes small cord-like mucous masses are passed and some degree of hæmorrhage occurs in certain cases, even in those of purely nervous type. The blood may be passed in larger or smaller quantities, generally at the end of defæcation, or there may be fragments of blood-stained mucus. In regard to the pathology Dr. Singer agrees with the view of Westphal that the spastic contracted condition of the intestine in the cases of nervous origin is due to a disturbed coördination of the muscular movements of the bowel. In regard to diagnosis, spastic constipation has to be differentiated from the various forms of colic, including lead colic, from gastric crises, and from intussusception and other forms of intestinal obstruction. The important features to recognise in this regard are the presence of sections of contracted bowel, the absence of pronounced meteorism and visible peristalsis. The treatment is a matter of considerable importance, since purgatives are to be avoided in spite of the constipation, their action tending to provoke or to increase the condition of spasm. In particular the drastic purgatives are harmful, and even cascara and saline aperients are, according to Dr. Singer, inadvisable. He also counsels against the use of mechanical procedures, such as massage and electrical methods of treatment. He states that the enemata of oil recommended by Fleiner are of value if used sufficiently warm. The application of moist heat to the abdomen he has also found very valuable. The most useful drug is belladonna in the form of suppositories, while bougies passed per anum are also strongly recommended by Dr. Singer. He uses the English form of rectal bougie, passed in a semi-soft condition with the patient in the knee-elbow position. The introduction is often painful at first and it may be necessary to use suppositories of codeine or belladonna. Considerable resistance is often met with at the internal sphincter and it is then necessary to allow the bougie to remain in contact with the obstruction for a time before it can be gradually pushed beyond it. Small bougies are to be used at first and later large ones. The question of diet does not appear to be one of importance in these cases, but in the nervous cases anything tending to lessen the excitability of the nervous system, such as change and rest cures, may be beneficial. Dr. Singer's paper affords an interesting study of an important condition.

THE PERILS OF FOOTBALL.

WITHIN a fortnight of the beginning of the football season we have received reports of three broken legs (death following in one of these cases) and one dislocated collar bone. Of course, this is not by any means a complete list of the serious injuries which have been sustained by football players since Sept. 1st, and in any case the full list would probably not be even a comparatively heavy one when the number of people actively taking part in the game is taken into consideration. But when sports may be associated with death it behoves all who are interested in those sports to do what they can to prevent accidents. We have on other occasions referred to the factors which are chiefly at work in rendering football dangerous. These factors are many. Essentially a game, whether the dribbling or running code be in question, where the greatest possible muscular exertion is called into play, and where, though the highest premium may be put on pace and skill, both strength and weight can be made to tell, it is absolutely certain that dangerous collisions must now and again occur. These dangers are more than of the game; they constitute the game and cannot be removed without alteration in the rules. But this is not all. Football is, in particular, dangerous in accordance with the spirit in which it is played. The element of personal conflict is very pronounced in either code and in the give and take of a scrimmage or *mêlée* loss of temper may lead to the infliction of serious injuries. We have pointed out these things before in very much the same words, and do not consider that we are taking up the position of milk-and-water alarmists. We know that we are expressing the views of many who can justly claim consideration as athletes when we express an opinion that it is no longer a sufficient reply to protest against the dangers of football to say that thousands play it. They do, and the fact makes the danger, if a small one, a very general one, and gives to the subject almost a national importance. We hope that those papers whose more especial province football, and the discussion of football, rightly is, will not consider the fact that we again call attention to the subject other than reasonable, and we hope that referees will punish with all possible rigour persons who play foully. A suggestion which we believe is not quite a new one has recently been referred to in the lay press—namely, that injured men in football matches should be replaced by fresh players. This may be regarded as a frank admission of the fact that unscrupulous players may be found amongst the large number of men who play the game—many of whom, moreover, play it for money—who are tempted by lust of victory to injure a player with the deliberate object of reducing the number of opponents. We can conceive that an organised system of substitutes in case of injury would much complicate the game, and we mention the suggestion not as advocating it (for it seems impracticable) but only as proving the confessed existence of foul players. While there should be general desire to minimise the risks of football to life and limb we most of all particularly desire to suppress dangerous foul play, and we look to the authorities of the game to punish in the severest manner—i.e., by heavy fines—clubs whose members are found guilty of the offence.

RECENT SANITARY CONGRESSES.

OUR columns have of late been so much occupied with the proceedings of various congresses that we have been obliged to forego the detailed reporting of others which have been given considerable prominence in the lay press. Amongst the most important of these were the annual conferences of the Sanitary Inspectors' Association which met last week at Liverpool and of the Incorporated Sanitary Association of Scotland which preceded it by a few days at Peebles. The Liverpool congress especially attracted conspicuous attention and the stimulating address of the President, Sir James Crichton-Browne, with its hopeful forecast of the ultimate triumph of sanitation over disease, formed the text of a considerable amount of appreciative editorial comment in the daily papers, the news columns of some of which printed full reports of his and other papers under such striking headlines as "Apostles of Sanitary Science." This we regard as a very healthy sign of the times, for the filling of many columns of prominent newspapers with accounts of debates upon sanitary matters proves the existence of an intelligent and growing public interest in the supreme laws of the people's safety. We need only allude to the topics upon which the militant sanitarian who presided at Liverpool based his address. Leaving the pursuit of his latest quarry, rats and vermin, he repeated the indictment of the common housefly as a habitual spreader of dirt and disease which he first brought against the ubiquitous insect when addressing a

similar congress at Middlesbrough some six years ago. Since that time further expert evidence against the offender has been brought from various bacteriological laboratories and sanitary authorities. "And with this evidence available," said Sir James Crichton-Browne, "I do not believe that any scientific jury will hesitate to find the fly guilty as a carrier of disease," an assertion in which we thoroughly agree with him as those who have followed our columns of recent years will remember. Other outstanding matters dealt with in his address, which was entitled "Liverpool Sanitation, Disease Carriers," were the splendid health work carried out of recent years in Liverpool by Dr. E. W. Hope and his colleagues—work which Sir James Crichton-Browne described as "colossal"—tuberculous disease, alcoholism, the housing problem, human typhoid carriers, and books as spreaders of disease. A natural transition led him from the consideration of the danger to the body of library books exposed to infection, to the even greater and more insidious danger to the mind of a certain limited class of pornographical printed matter which unfortunately commands a ready sale in this country. With this disquieting problem of mental hygiene Sir James Crichton-Browne concluded his very comprehensive address, which we trust has been read and pondered in many thousands of households. Other papers read at the Congress were on "Sanitation in Ancient Greece," by Dr. R. Caton, Lord Mayor of Liverpool; "The Sanitary Administration of Liverpool," by Mr. W. Muirhead, chairman of the Liverpool sanitary sub-committee; "Organised Endeavour against Diseases, or Lessons to be Learnt from the Health Campaign in Ireland," by Sir Rubert W. Boyce, F.R.S., Liverpool University; "Housing and Town Planning," by Dr. A. A. Mussen, assistant medical officer of health of the city of Liverpool; and "Health and the Home," by Mr. A. G. Duck, chief sanitary inspector, Woolwich. The business of the Incorporated Sanitary Association of Scotland, which assembled in Congress on Sept. 3rd at Peebles, under the presidency of Dr. Charles Templeman, medical officer of Dundee, included an address from the chair on "The State and the Individual in Eugenics," and papers on "The Mental Hygiene of Childhood," by Dr. J. R. Watson and Mr. M. Ritchie, B.Sc.; on "The Cleansing and Disinfecting of Schools," by Dr. T. F. Dewar; on "Housing and Town Planning," by Mr. F. G. Holmes; on "Waterworks Administration," by Mr. W. A. Tait; on "A Proposed Territorial System of Fighting Consumption," by Dr. T. F. S. Caverhill; and on "The Dangers in the Milk-supply," by Dr. G. M. Cullen, Dr. A. Campbell Munro, and Mr. John Findlay. A discussion on "The Problem of the Unemployable," opened by Mr. Andrew M'Crachen of Glasgow, also formed part of a busy two days' programme, which attracted a fair share of attention in the Scottish press.

RHUS TOXICODENDRON.

Sir E. Ray Lankester, in directing attention to the poisonous effects of rhus toxicodendron or "poison ivy," has caused widespread and unnecessary alarm among uninstructed folk. As a result many suspected specimens of various garden plants have been sent to botanical authorities for identification. In one case the harmless ampelopsis, a favourite suburban climber, was mistaken for "poison ivy" by a medical man who advised the owner and others having similar plants to have them destroyed. In view of the possibility of mistakes of this kind recurring Mr. E. M. Holmes, curator of the museums of the Pharmaceutical Society, has published[1] a description of the plants. There are three forms of ampelopsis, one of which is the ordinary virginian creeper. They are distinguishable from rhus toxicodendron in that the latter never has tendrils and the terminal leaflet always has a longer stalk than the two side leaflets. The creeper on the walls of gardens having three leaflets with stalks of equal length and provided with tendrils may therefore be regarded as perfectly harmless. The typical rhus toxicodendron is an erect shrub, but there exists a climbing variety in cultivation. Like many other plants of the same family, it contains an acrid juice which blackens on exposure to air. It has a most irritating effect on persons of an erysipelatous tendency or whose skin is particularly sensitive to the bites of gnats and fleas. To such persons the plant is really dangerous, causing a painful dermatitis that in some cases recurs annually. The irritating action has been variously ascribed to acetic acid, a volatile acid substance, a volatile alkaloid, and a non-volatile oily body named toxicodendrol. The fact that some people are affected by proximity to the plant without actually coming in contact with it points to the probability that a volatile constituent is the cause of the poisonous action. Several remedies have been employed with varying success, including the tinctures of lobelia and serpentary and the fluid extract of grindelia. Most relief is probably to be obtained by using an alcoholic solution of lead acetate as a lotion, with the addition of tincture of opium to allay the pain. Rhus toxicodendron is not described in Bentham and Hooker's "British Flora," and there is but a remote chance of trouble arising in the British Isles from contact with the plant. In the United States, on the other hand, where it flourishes, children are cautioned against the plant, especially when rambling in the woods. In cases of poisoning by the "poison ivy" vomiting, drowsiness, stupor, dilated pupils, convulsive movements, delirium, and fever have been observed. Homœopathists have largely employed a tincture of the plant in subacute and chronic rheumatism, but Dr. H. C. Wood some years ago gave it an extended trial in the Philadelphia Hospital and was unable to perceive that the patients progressed more rapidly when taking the drug than when they were simply nursed.

[1] Pharmaceutical Journal, August 22nd, 1908, p. 231.

THE NORTHERN INFIRMARY, INVERNESS.

WE have received a somewhat belated account of the position of affairs existing at the Northern Infirmary, Inverness, a position brought about by the action of the committee of managers. The meeting was held on August 28th and resulted in an alteration being made in Rule 17 of the constitution of the infirmary. The rule used to read as follows:—

> The medical staff shall consist of consulting members and not more than four acting and two assistant members, to be appointed by the managers at the annual general meeting in May, or at a special general meeting to be called for the purpose. The consulting members shall be appointed out of those who are or who have been members of the acting staff, during the pleasure of the managers. The appointment of the acting members shall be for a period of five years, and thereafter during the pleasure of the managers until each shall have served 15 years. On a vacancy occurring among the acting members the vacancy shall be filled up by the appointment of one of the assistant members. No member of the acting staff shall continue to hold office after attaining the age of 60 years, unless the managers shall see cause to continue his appointment.

As amended, the number of acting members is increased to five and power is given to the managers, in the event of a vacancy occurring among the acting members of the medical staff, of passing over the assistant members and of appointing any qualified medical man. As a result of the amendment of the rule the following curious position was arrived at. Dr. A. W. Mackay, who had served for 15 years on the acting staff, was for that reason compulsorily retired, and in the natural course of events would have been elected a member of the consulting staff. The senior assistant medical officer, Dr. Gordon A. Lang, was appointed to fill the vacancy caused by Dr. Mackay's retirement,

but instead of appointing Dr. J. W. Mackenzie, the junior assistant, to the fifth acting membership, the managers passed him over and appointed Dr. Mackay, who has thus fallen from his high estate of senior acting member to that of junior acting member. The new rule is naturally objected to, not only by the whole of the medical staff except Dr. Mackay, but also apparently by other medical men in the town. Formerly, it will be seen, the assistant members of the medical staff were practically sure of promotion, but under the new rule they are by no means so. The staff has, we hear, lodged a protest. We would remind the managers that an infirmary can get on without managers but that it cannot get on without medical men.

PERNICIOUS ANÆMIA IN TUBERCULOSIS.

AT a meeting of the Société Médicale des Hôpitaux of Paris on June 19th M. Marcel Labbé and M. Agasse-Lafont reported a case in which pernicious anæmia was due to tuberculosis—a very rare condition. A married woman, aged 36 years, was admitted into hospital on April 27th, 1908, for œdema, anorexia, fever, and great weakness. She had never been pregnant and had enjoyed good health until two years previously when she began to develop anæmia and to lose strength. After some months megrim, vomiting, and diarrhœa supervened. On admission she was extremely weak. The skin was very pale and the mucous membranes were completely decolourised. There was general œdema which was more marked in the lower limbs. Examination of the blood showed the changes characteristic of pernicious anæmia. The red corpuscles were reduced to 380,000 and were of very unequal size. Their hæmoglobin value was 1·85. Poikilocytosis and polychromatophilia were well marked. There were from two to four nucleated red corpuscles to every 100 leucocytes. The latter numbered from 2500 to 3600 and were almost normal in kind except for the presence of 5 per cent. of myelocytes. The fæces were yellow and did not contain any parasites. The abdomen was very tense and œdematous and showed a collateral circulation. The liver was large, extending two or three fingers' breadth below the ribs. The spleen appeared to be normal. In the chest bronchial breathing at both apexes and bronchitic râles were heard. There was abundant foamy sputum which did not contain the tubercle bacillus. The temperature varied from 102·3° to 103·1° F., being highest in the evenings. The pulse was from 120 to 130 and feeble; the heart was slightly dilated. There was slight albuminuria. Though the blood examination showed the presence of pernicious anæmia the temperature pointed to an infection. Cultures made from the blood remained sterile. The pulmonary signs pointed to tuberculosis but the absence of the bacillus from the sputum prevented this from being diagnosed. The fresh marrow of the calf, saline injections, and oxygen inhalations were prescribed. The diet consisted of a litre of milk, the yelks of one or two eggs, and some grammes of raw meat daily. The state of the blood improved slightly and on May 13th the red corpuscles numbered 520,000, but the other symptoms did not improve and the patient grew weaker and died on May 26th. At the necropsy all the organs were found decolourised. There was some citrin fluid in the pleural cavities and the bases of the lungs were united to the diaphragm by recent soft adhesions. The bronchi contained pus. The apex of the left lung was congested and greyish at certain points. The lower lobe of the right lung was very œdematous and showed on its surface fine granulations and in its interior a little caseous tubercle. The tracheo-bronchial glands formed a voluminous mass and several of them were indurated or caseous. Attempts to find the tubercle bacillus in sections of the lungs and glands proved negative. The peritoneal cavity contained from three to four litres of sero-fibrinous fluid. The great omentum contained small, semi-transparent granulations of tuberculous appearance. The liver showed fatty degeneration of all its cells and peri- and intra-lobular sclerosis and masses of round cells suggesting young tubercles. The bone marrow in some places showed a myeloid reaction. The principal point of interest is the relation of the pernicious anæmia to the tuberculosis. Was the latter grafted on the former, as it sometimes is in leukæmia, or was it the cause of the former? The first hypothesis is negatived by the fact that the tuberculous lesions were old. A moderate degree of anæmia occurs in almost all cases of tuberculosis and is well recognised, but forms of anæmia which dominate the clinical picture are not well known, though they are more frequent than has been supposed. The slightest and the most frequent form of anæmia in tuberculosis is of the chlorotic type; the most severe and the most uncommon is of the type of pernicious anæmia. Between these two are intermediate forms. Only a few cases of the type of pernicious anæmia have been reported. Paul and Rivet have recorded a case of chronic pulmonary tuberculosis in a woman, aged 41 years, in which anæmia supervened. The red corpuscles numbered 488,000 and the blood contained normoblasts, myelocytes, and hæmatoblasts. The necropsy showed pulmonary tuberculosis, fatty degeneration of the liver, and a feeble myeloid reaction of the spleen and marrow.

THE MATHEMATICS OF PRESCRIBING.

A CONTRIBUTOR to the *Chemist and Druggist* has drawn attention to an interesting account in Sprengel's "History of Medicine," published about a hundred years ago, of a unique method of prescribing worked out by Jacob-Ebn-Izhak-Alkhendi, who lived in Bagdad in the ninth century. Sprengel obtained the particulars from Alkhendi's work on the "Degrees of Compound Medicaments." Alkhendi was a mathematician as well as a physician and he based his theory of prescribing on Galen's doctrine of hot and cold, humid and dry drugs. He formulated the equation $x = b^n - {}^1a$, and explained it thus: a is the first degree, b the last, x the exponent, and n the number of terms. In applying the equation to remedies the following explanation is given: "The first degree results from the multiplication of an equal mixture by two; the second of that of the total of the first degree by two; and the third of that of the second degree by two. Thus, the total of the second degree is the quadruple of the equal mixture and that of the third eight times stronger than that mixture. The total of the fourth degree is equal to the uniform mixture in the sixteenth quality, and to the first degree in the eighth quality." In case this explanation is not clear an example is given of one of Alkhendi's prescriptions:—

	Hot.	Cold.	Humid.	Dry.
Cardamoms, 1 drachm	1	½	½	1
Sugar, 2 drachms	2	1	1	2
Indigo, 1 drachm...	½	1	½	1
Myrobalans, 2 drachms	1	2	1	2
	4½	4½	3	6

"This compound medicine," it is explained by Sprengel, "is exactly balanced as regards heat and cold, but the dry qualities being double the humid ones, the mixture is dry in the first degree. If the total had been twelve of the dry to three of the humid, the mixture would have been dry in the second degree. Let it be remembered that these hot and cold, wet and dry medicaments of the first, second, third, and fourth degrees had to balance cold and hot, dry and wet, diseases of the same number of degrees, and that medicines adapted for one part of the body were rather rigorously not permitted to trespass on the domain of those applicable to another part. ..... The theory of degrees

had been floating about among theoretic physicians for some centuries before Galen, but it was he who put it into dogmatic shape, and it pretty well held the field down to the seventeenth century." The theory of Alkhendi is chiefly interesting in showing the way in which the early physicians sought to set prescribing on a scientific basis. His formula appears ludicrous when viewed in the light of modern knowledge, but the use of formulæ may again be adopted when the study of pharmacology has shed more light on the quantitative action of drugs. The power of calcium chloride to increase the coagulability of the blood affords an illustration of a drug that is capable of yielding very definite results and the researches of Wright and others are showing clearly its possibilities and its limitations. It is possible to determine the necessary dose of this salt by ascertaining the amount of calcium already present in the blood, and this clearly shows the way to a mathematical method of prescribing.

CICATRICIAL STENOSIS OF THE COMMON BILE-DUCT: IMPLANTATION AT ANOTHER POINT IN THE DUODENUM.

IN the *Boston Medical and Surgical Journal* of July 23rd Dr. Horace Packard has reported the following case which illustrates a new operation in plastic surgery. In February, 1907, he saw a man suffering from profound jaundice. Three years previously he had an attack of jaundice from which he recovered. A month previously he again became jaundiced with an attack of influenza. The stools were clayey and the urine very dark. Later the stools became very black and were still so. There had been pain in the epigastrium and right hypochondrium. In the right hypochondrium an elongated oval tumour, extending from the eighth costal cartilage to below the level of the umbilicus, was felt. It was evidently the gall-bladder. Plugging of the common bile-duct by a calculus was diagnosed. The gall-bladder was exposed. It was enormously distended and thinned to the point of rupture and showed degenerative spots suggesting impending perforation. Cholecystectomy was deemed imperative and performed. No calculi were found in the gall-bladder. The cystic duct was doubly ligatured close to the common duct. The common duct was palpated and found greatly distended, but no stone could be detected. It was slit open and a small drainage-tube was inserted and fastened in with catgut. As the condition of the patient was precarious it was deemed unwise to prolong the operation, although the cause of the obstruction had not been removed. In the next four weeks the jaundice gradually disappeared. The stools became white. Bile poured from the wound day and night. At the same time the patient developed a ravenous appetite. Under these favourable conditions it was hoped that the common duct would become opened, but after eight weeks there was still no bile in the stools. On April 11th the wound was reopened and the biliary sinus was traced down to the common duct. The duodenum was exposed by incising the peritoneum at its reflexion on to the posterior abdominal wall and opened to admit the finger to explore the ampulla of Vater, where a deep ulcer surrounded by inflammatory tissue was found. The difficult problem arose of restoring communication between the common duct and the duodenum. Dr. Packard knew of no precedent, but he further isolated the common duct from its surrounding attachments and cut off its duodenal end. He had a little over an inch of duct free. He punctured the duodenum at a point favourable for implantation, and with the aid of two Pagenstecher threads passed through the duct and serving as leaders, pulled it through the opening until it could be seen well inside the mucous membrane. The threads were used to fasten the duct to the mucous membrane. With a continuous Pagenstecher thread the muscular wall of the gut was folded over the duct. The incision in the duodenum was then closed. In view of the pathological condition in the duodenum it was deemed wise to perform posterior gastro-enterostomy. Drainage was provided for at the point of implantation and the wound was closed. The leakage of bile ceased and the fæces resumed their normal colour in a few days. The wound suppurated but healed rapidly by granulation. For the first few days the patient was fed per rectum. Convalescence was rapid and he completely recovered his health, though he had some pain in the right hypochondrium after a full meal. Dr. Packard thinks that the presence of the black stools (melæna) should have led him to the diagnosis of ulcer of the ampulla of Vater causing obstruction of the common bile by cicatricial contraction. A curious fact, difficult of explanation, is that the cicatricial contraction of the ulcer of the ampulla did not cause obstruction of the pancreatic duct. Only two similar operations appear to have been recorded in the United States. Dr. W. J. Mayo successfully implanted the hepatic duct in the duodenum. Dr. F. B. White and Dr. F. B. Lund have reported a case of excision of the pylorus and first portion of the duodenum in which the common duct was cut and successfully implanted in the second portion of the duodenum.

PROTRUSION OF THE SMALL INTESTINE PER ANUM: A RARE CASE.

WOUNDS or ruptures of the rectum are, apart from obstetric cases, by no means common, and those which permit the passage of portions of small intestine to enter the rectum and even to protrude from the anus are of extreme rarity. Dr. Enrique Zarate has just published in *La Semana Médica* a case of this kind which he treated successfully in the Fernandez Hospital, Buenos Ayres. A woman, aged 29 years, while going upstairs slipped and fell backwards. She felt an acute pain in the abdomen and almost immediately afterwards lost consciousness. When taken to the hospital she was in a state of semi-collapse. About two metres of small intestine with the corresponding mesentery were seen to be emerging from the anus and there was complete prolapsus uteri. This latter condition was due to a perineal rupture during instrumental delivery seven years previously. The patient had always been able to replace the uterus without assistance, so no difficulty was found in that part of the operation. The fan-shaped bunch of small intestine it was found impossible to reduce, and so laparotomy was performed, Trendelenburg's position being employed. The bladder was greatly hypertrophied. There were some coagula in the pelvis and on raising the uterus a rupture was found in the anterior wall of the rectum extending from opposite the fundus of the pouch of Douglas upwards for 10 or 12 centimetres, though the whole of the coats of the rectum were only torn through for some 7 or 8 centimetres. The patient made a good, though slow, recovery. She, however, utterly refused to allow the prolapsus uteri to be treated. M. Quénu of the Hôtel Dieu, Paris, published two cases of rupture of the rectum with hernia of the small intestine, both the result of excessive straining at stool, one occurring in a woman aged 70 years, the other in a man aged 45 years. Sir Benjamin Brodie performed laparotomy in St. George's Hospital in 1827 on a young woman who had experienced a sudden pain at night which she fancied betokened an abortion but which was followed by a protrusion of two yards of small intestine from the anus. A transverse tear was found in the anterior wall of the rectum. Professor Adelmann of Dorpat operated in 1845 without anæsthetics on an old woman who after

straining at stool found five metres of small intestine protruding from the anus. Professor Adelmann mentions a case seen by Pyle where a young woman who had been kicked and thrown down experienced great difficulty the next time she went to stool, and after violent straining forced out a mass of small intestine and a large quantity of blood. She died shortly afterwards and at the necropsy the abdominal organs were found considerably displaced, the mass protruding through an extensive wound in the posterior wall of the rectum consisting of part of the cæcum and nearly the whole of the jejunum. Rochè[1] actually saw a woman who had previously consulted him for a vesico-vaginal fistula pass through a prolapsed rectum a mass of small intestine while he was examining her. Two cases of female children where wounds of the rectum were produced by an enema tube and a fall on a broken chair respectively were mentioned in a clinical lecture delivered by Mr. G. H. Makins at St. Thomas's Hospital,[2] but no protrusion of the small intestine occurred in either. Stuthgard of Copenhagen saw a man who with the idea of curing excessive constipation had pushed a pole into his rectum so as to cause perforation. Dr. J. B. Neal has recorded[3] the case of a woman in the Wandsworth and Clapham Infirmary who seems to have been thrown on her face, a small cucumber having then been forced up her rectum, the anterior wall of which was torn half across 3½ inches from the anus. It has been found by experiment that violence of this kind caused rupture into Douglas's pouch if the body was prone but that the force impinged against the sacrum if it was supine.

RECENT SUMMER DIARRHŒA IN ENGLISH TOWNS.

THERE are few features of urban mortality that have received from sanitary experts more studious attention than the annual recurrence, with varying intensity, of infantile summer diarrhœa, and yet no satisfactory measures for its control and abatement have yet been devised. During the recent early summer the rate of mortality in the 76 large English towns, dealt with in the Registrar-General's weekly returns, was unprecedentedly low, but during August the death-rate showed a very marked increase. The deaths registered in these towns during the four weeks ending the 29th of last month exceeded by no less than 4012 the average mortality recorded in the preceding five weeks of July, of which increase 938 occurred in London and 3074 in the 75 towns outside the metropolis. Of this marked excess of deaths in the 76 towns during August, 3138 were deaths of infants under one year of age, of which 728 were recorded in London and 2410 in the 75 towns outside London. During the five weeks ending August 1st, the average weekly number of deaths in the 76 towns attributed to diarrhœa did not exceed 166, whereas in the succeeding four weeks ending August 29th the weekly average increased to 923; the aggregate excess in the number of fatal cases of this disease during the four weeks was 3026, of which 670 occurred in London and 2356 in the 75 provincial towns. It may be noted that of the 810 deaths in London referred to diarrhœa in the four weeks of August, 625 were of infants under one year of age and 159 of children aged between one and five years; thus only 26 of the 810 deaths from this cause occurred among persons aged above five years. It may, moreover, be fairly assumed that practically the whole of the marked increase of mortality during August occurred among young children under five years of age, since of the recorded increase in London at all ages and from all causes (938) 905 were deaths of children under this age. In view of the admittedly intimate connexion between the mortality from summer diarrhœa and temperature and rainfall the meteorological conditions prevailing during the past two months are not without interest. The mean temperature of the air at Greenwich during the five weeks ending August 1st was 62·1° F. and 0·4° below the average in 65 years, and 3·66 inches of rain were measured on 12 days. During the four weeks ending August 29th the mean temperature did not exceed 59·8° and was 2·0° below the average, and 2·89 inches of rain were measured also on 12 days. The mean temperature in July, therefore, differed but slightly from the average, while that in August was distinctly below the average, and the rainfall somewhat exceeded the average in each month. The marked increase in the fatality of diarrhœa among children during August can therefore scarcely be attributed to meteorological conditions, as the mean temperature was considerably lower than in July. Still more difficult to explain are the startling variations in the fatality of this disease in different towns, unless they be attributed to varying degrees of ignorance and neglect in the care and treatment of infants. In the seven weeks ending Sept. 5th, for instance, 178 deaths resulted from diarrhœa in the South Wales mining district of Rhondda, against but 62 in Cardiff, which has a much larger and more distinctly urban population. The marked difference between the mean rates of mortality from diarrhœa in Lancashire and Yorkshire manufacturing towns has, moreover, never been satisfactorily explained.

[1] Revue Médico-Chirurgicale, 1853.
[2] THE LANCET, Oct. 28th, 1899, p. 1145.
[3] THE LANCET, Feb. 4th, 1882, p. 182.

A TELEGRAM from the governor of Mauritius received at the Colonial Office on Sept. 11th states that 2 cases of plague were notified for the week ending on that date and that there were 2 deaths from the disease. The Department of Public Health of Queensland, in a bulletin dated August 8th, states that for the week ending on that date one case of plague was reported—namely, a man, aged 50 years.

WE regret to announce the death, at the early age of 41 years, of Mr. Edward Percy Paton, the dean of the Medical School of the Westminster Hospital. Mr. Paton, Mr. H. L. Barnard, and Dr. Bertram Abrahams were three of the best known of the younger men attached to the great metropolitan hospitals and their loss will be severely felt.

REPORT OF THE ROYAL COMMISSION ON THE FEEBLE-MINDED.

I.

THE report commences with a consideration of the Poor-law and its effects upon the condition of the mentally defective in towns and in the country, apart from the metropolis. An investigator of the Commission writing of certain northern unions, reports that there the majority of the mentally affected persons met with in the Poor-law institutions are sufficiently looked after though their condition can by no means be regarded as satisfactory. "They are perfectly free to leave the workhouse at will, and when it is borne in mind how many young women, who have already had illegitimate children, there are amongst them, it will be recognised what grave risk there is, in both sexes, of the further propagation of their defects. The occupation of those who are in the workhouse is also capable of radical improvement; many of them could do, under efficient supervision, a certain amount of useful work, which would make them more serviceable members of society than they are at present in enforced idleness or doing only the roughest or most unskilled work." Of the classes of feeble-minded persons there are several. There are those either born in the workhouse and who are nearly always illegitimate, or who enter at a very early age owing to the death of the

parents; those who are admitted during adolescence in consequence of their inability to earn a living; those who are admitted later in life owing to the death of friends who have hitherto looked after them; those who are loafers and vagrants and are driven in by destitution and stress of weather; and lastly, women who have entered to be confined of illegitimate children. It is noticeable that while in the maternity wards only a small number of the women are feeble-minded, yet that the women who are feeble-minded in very many cases have illegitimate children and that at present they are not and cannot be well protected. The evidence of Mr. Bagenal, speaking on this subject, is striking. "Feeble-minded women are particularly open to the seductions of men. They seem to be deficient in will-power and the power of resistance to attacks upon their virtue. In some the moral sense is altogether absent. The consequences we see in the frequency of this class in the lying-in wards of the workhouse. In one workhouse I found five young women all of whom were feeble-minded. Number one was going to be confined and had had two children before; number two had had two children; number three had had two children; number four had had one child; and number five had been confined in the summer and had had three children previously. All these were illegitimate. The cost of these cases is a very great burden on the rate-payers, especially as the children will probably turn out to be feeble-minded also." So also another witness, Miss Skinner, the superintendent nurse of a union infirmary, gave evidence to the effect that a great many girls admitted to lying-in wards were more or less feeble-minded and unfit to look after themselves, but after their recovery they were discharged and went to the bad because no one had the power to protect them against their will.

With respect to the mentally defective in workhouses, the general impression derived from the evidence is that, while they are kindly treated, they are rather being maintained than being thoughtfully considered, and that but little attention is given to their training. For example, there is the evidence of Dr. Pearse in regard to a southern county. The feeble-minded "do a certain amount of routine work in the institution—wood-chopping, gardening, laundry work; many work well, others only under supervision. There is, however, absolutely no recognition of the fact that they need special training. After treatment suited to their requirements they would be able to provide for themselves much better than they do." But, beside the commonly defective nature of the training, the classification in the workhouses is frequently of an undesirable nature. In a workhouse visited by one of the witnesses there were "imbeciles, idiots, and slightly feeble-minded living in wards together, all ages from 14 to 90. Hardly any attempt was made to teach or occupy the children. On the men's side the boys were partially separated from the men, but the accommodation was cheerless and the life of the boys idle and dreary. Slightly feeble-minded children were associated with the saddest, most hopeless idiots. ..... The medical officer was of opinion that the boys were improvable, but would deteriorate under workhouse conditions. A girl of 14, who had made considerable progress at the special school, was associating with a room full of low type imbecile women." The feeble-minded are frequently housed with the aged and infirm, and the latter wishing for quiet and rest find it impossible in a room full of jabbering idiots.

Evidence pours in on all sides of the immense desirability of keeping some further control over higher grade mentally defectives. The vagrant class is largely recruited from the ranks of the feeble-minded. The boys are practically unemployable and rapidly pass into the ranks of the nomad population. The feeble-minded men in the workhouses are frequently such as go into the house for the winter and go out for the summer, picking up a precarious and often unlawful livelihood. The same is true for the women. Over and over again women whom it would be most inadvisable to allow out are detained in the workhouse by some form of persuasion. Take as an instance a woman who had had five children, all by different fathers. Of the five, three most degenerate offspring were dead, while the two surviving were in the custody of the guardians. In the workhouse of a large north country town, when the evidence was taken, there were 60 so-called able-bodied women. Of these, according to the views of the medical officers, 39 were of varying degrees of feeble-mindedness, 16 had children, and none of them were able to take care of themselves. There were 60 able-bodied men, and of these the medical officers thought that 23 should be kept under permanent care. Of the women some were persuaded to stay by means of preferential treatment, but it appeared to be a common experience that the younger and more innocent were very apt to be influenced by a depraved woman and then nothing could keep them in. Others, seized with a restless fit, took their discharge and made their next appearance in the maternity wards. As a result of a consideration of the enormous amount of practically unanimous evidence that came before the Commission the opinion is formulated that the accommodation provided for the feeble-minded is insufficient, unsatisfactory, and unsuitable, and that "of late years, with an increased sympathy for those who are suffering from mental weakness and defect, with a closer study of mental science, and with the general application of the principle of educational equality to all classes of children, including the feeble-minded, there has sprung up a demand for a more discriminative and individual treatment of mentally defective persons which cannot but entail a reorganisation of the public provision hitherto furnished for the afflicted."

With regard to the metropolis a very similar tale is told. To begin with the children. Notes of 100 cases of boys and 28 cases of girls, juvenile offenders under 16 years of age, who were placed in the remand home of the Metropolitan Asylums Board, supply illustrative statistics. Out of the boys 37 were graded as between "backward" and "mentally deficient," of the girls 16 out of 28 were so graded. If these proportions are applied to the numbers of children treated as juvenile offenders the question becomes plainly a very serious one. In three years there were 32 girls at the remand home under seven years of age and of these 15 were living with prostitutes. Of girls 13 years of age there were 93, of whom 15 were charged with stealing and larceny, 10 with living with prostitutes, and 36 with wandering. As mentally defective after 16 or later, more than half of these would be likely to come upon the public authorities or on voluntary charity for support. A similar state of affairs obtains among the boys. The home circumstances of 40 such cases were investigated and their vicious and unhygienic character demonstrated. In the 40 cases 35 per cent. of the fathers and 25 per cent. of the mothers were known to have been heavy drinkers. Phthisis was found in 11 fathers and seven mothers. Of the total cases 60 per cent. of the parents were drinkers and 30 per cent. were phthisical. Flagrant immorality was charged against 15 per cent. of the fathers and 17·5 per cent. of the mothers. Of the children 14·9 per cent. were illegitimate, while others had been deserted and might reasonably be supposed also to be illegitimate. Out of 4561 cases submitted to the medical officer to the London County Council with a view to his selecting those children who should be admitted to the special schools for mentally defective children, 1728 were entered as mentally defective and 187 were rejected as imbecile. For these cases when they reach the age of 16 there is no suitable provision, yet many of them are at that age incapable of even partial self-support. Evidence that this want of protection in later life is frequently fatal is considerable. Many mentally defective persons pass through the prisons. At the Holloway prison out of 803 women there on a certain date 83 were of that type, 41 were chronic inebriates, 39 were feeble-minded, and three were insane. It appears then that in the metropolis, as elsewhere, there is a comparatively large class of feeble-minded persons who are not regarded as insane but who certainly cannot be held to be entirely responsible, and who are a cause of great trouble and anxiety to those who have to deal with them. Often these have had no education and their mental defect prevents their being employed even as unskilled labourers, while their moral sense is often very defective. Neither has our present administrative organisation made provision for the education of such as these, nor has it devised any method by which they may, in later life, be adequately looked after. At the present the Metropolitan Asylums Board may not take charge of mentally defective children under five years of age, nor keep them after 21, unless they are certified as idiots or lunatics. Similarly, the education committee of the London County Council, which has opened residential homes for the same

class of children, receives the children into its classes between the ages of five and 16, but at the latter age no provision for them is forthcoming, however defective they may be. Even such accommodation as was designed for imbeciles has been diverted to other purposes and boards of guardians have to a large extent adopted the practice of sending to institutions primarily intended for imbeciles their old men and women suffering from senile decay. Indeed, as Sir John McDougall said in his evidence, "there is no line between a lunatic and an imbecile of later age except that a very tiresome imbecile is a lunatic, while a very quiet lunatic is an imbecile—that is the practical result." The general conclusion of the Commission on the subject is that there are in London a division of authority and a want of administrative accord which are fatal to any successful treatment of the problem.

It is unfortunately only too frequently the case that the public regard conditions of mental defect as irrecoverable. In this, yet more unfortunately, they are abetted by medical men. The methods of Séguin, Bourneville, and others have received but scant attention, and of what can be done for mentally defective children we are for the most part in lamentable ignorance. It is therefore well to lay stress upon the evidence on this point collected by the Royal Commission. Miss Turner, a medical witness, gave evidence to the effect that there might be total recoveries if proper treatment and education could be commenced at a sufficiently early age. "Five is really too old to start special training; three would be better." Miss Hargreaves, matron at Rochester House, showed how imbeciles could be educated into supervised forms of occupation, and the method by which this result was obtained is now adopted on a larger scale at Darenth Industrial Colony. Dr. A. Rotherham said: "The children could be very greatly improved; they could do anything mechanical so long as they were looked after." Parallel to this evidence that the condition of mentally defective children is capable of great improvement is evidence of the deterioration of such children as are withdrawn from supervision and instruction.

In the forefront of the Royal Commission's recommendations a problem is set out which appears to us to be of so great importance that we quote the paragraph *in extenso*:—

> Before coming to a conclusion on the alternative, whether the Poor-law system should be expanded so that it may make entire provision for mentally defective persons, or whether this task should be assigned to some other control and local authorities, the ultimate question, which both parties raise, and which we have to decide, is whether the mentally defective should be considered and dealt with as suffering primarily from mental disease, or primarily from poverty or destitution, however caused? In the former case they would be relieved—whether paupers, or prisoners, or inebriates, or "feeble-minded," or persons of "unsound mind," as having a claim on the community on the common ground that they are mentally afflicted; and assistance for them would be organised with a view to their treatment as patients. In the latter case they would be relieved as poor or destitute persons who happen to be mentally defective, and who on that account are paupers as being in need of relief, but incidentally patients, as being in special need of treatment. But the evidence shows that the division between pauper and non-pauper is quite unreal in the case of the mentally defective. The son of respectable parents, who is permanently supported wholly or in part by relatives or friends, requires, as mentally defective, the same treatment as another person whose relatives and friends cannot help him at all; and the greater or lesser possibility of obtaining payment for the treatment—the more or less poverty or destitution—is not the dividing line in these cases, but the existence or non-existence of mental disease. Further, the distinction, on which we insist, is especially applicable to a class of case for which it would be difficult for the great mass of people to make any provision. These cases, wherever they may be, or whatever public department or organisation may deal with them, involve continuous expenditure greater than can ordinarily be met by the people themselves, even when they are capable and industrious members of the middle and working classes. ..... All possible obligations which can reasonably be imposed should, indeed, in our opinion, be enforced on relatives, and the help of friends and voluntary agencies also should be used to the utmost. But in the development of any organisation for the care of the mentally defective the precedent of the Lunacy Acts should, we think, be followed, rather than the precedent of the Poor-law. Under the Lunacy Acts intervention is due to the existence of mental incapacity; under the Poor-law to the existence of poverty and destitution. It must also be remembered that the certification, detention, and segregation, in regard to which all our witnesses are agreed, are advocated in the interest of the community at large and not merely or chiefly, as relief is given under the Poor-law, in order to meet the personal needs of particular cases.

So far as segregation is concerned there is a general consensus that it is not good for the individual or for the community that a person who is mentally defective and has been convicted of crime should be set free, like an ordinary prisoner, to go where he may on discharge. Equally is this so in the case of inebriates, or paupers, or children of school age, who are mentally deficient. Dr. James Kerr, the medical officer of the London County Council, states of the kind of children handled in special classes: "Many who can contribute materially to their own livelihood would be better if under custodial treatment. ..... Compulsory powers for detention will be required for many cases. ..... The matter as a State provision for the improvement of social conditions will be almost futile, if provision is not also made for continuing the custodial treatment after school ages." To improve the condition and meet the needs of the mentally defective, whether in elementary schools, prisons, inebriate homes, or asylums, the Commission considers that it will be necessary that there should be established one central authority for the general supervision of such persons and to regulate the provisions made for their maintenance, care, treatment, and training. The local authority which is to carry out such regulations, it is suggested, should be the council of each county or county borough. The Commission finds nothing peculiar in the conditions which obtain in London which would suggest a scheme different from that recommended for England generally, and since it is of opinion that a Poor-law authority cannot suitably undertake the care of the mentally defective it is unable to recommend that the Metropolitan Asylums Board should be the local authority in London, but it is suggested that the duty should devolve upon the County Council acting through a statutory committee. As regards the education of mentally defective children it is recommended that where there are special classes they should be used for teaching those who would be able to look after themselves later in life and that such classes should pass under the Board of Control and should not remain under the Board of Education. To ascertain the number of mentally defective children and to provide for their education, supervision, and segregation it is recommended that the system of registration now in force with regard to school children should be turned to account and made the foundation of records which would be of use in caring for them throughout life. It is recommended that notification from public authorities and private homes should be required by statute, but that otherwise there should be no notification except in regard to patients received for profit. Where there are no special classes or schools it is recommended that the local authority may intervene and either make provision in connexion with the education authority or independent of it. The Commission is of opinion that the ordinary education authority should not be the authority in charge of mentally defective children. To the Commission it seems that a single and continuous control over the mentally defective person, both in childhood and subsequently in adult life, is indispensable and that the education authority as the educator of children and not as the supervisor of adults could not exercise this control, and just as the Poor-law, established for the care of the poor and destitute, is unsuitable for the care of the mentally defective, so the educational system of the country, established for the teaching of the normal child, is unsuitable for the child who can never reach the mental level of the normal.

OPENING OF THE LONDON MEDICAL SCHOOLS.

Winter Session 1908–09.

St. Bartholomew's Hospital.—The session will begin on Oct. 1st. The old students' dinner will be held on the same evening in the great hall of the hospital at 7 P.M., when Mr. H. Gilbert Barling will preside.

Charing Cross Hospital.—The session will commence on Oct. 1st by the delivery of the seventh biennial Huxley lecture on Recent Advances in Science and their Bearing on Medicine and Surgery, in the out-patients' hall at the hospital, at 4 P.M., by Sir Patrick Manson, K.C.M.G., F.R.S. The dinner of the past and present students will take place on the evening of the same day, at 7.30 P.M., at the Criterion Restaurant, when Mr. Edgar A. Browne of Liverpool will preside.

St. George's Hospital.—The session will open on Oct. 1st with an inaugural lecture which will be given by Dr. Charles Slater at 4 P.M. The annual dinner will be held on the same evening.

Guy's Hospital.—The annual dinner and first meeting of the Guy's Hospital Physical Society will be held on Oct. 8th.

The dinner will be held in the dining hall of the Students' Club at 7 P.M., with Mr. Cosmo Bonsor, treasurer of the hospital, in the chair. At the meeting following the dinner Sir Richard Douglas Powell, Bart., K.C.V.O., will deliver an address on the "Just Procedure of Medicine." Dr. J. F. Goodhart will preside at the meeting.

King's College Hospital.—The winter session will be opened on Oct. 1st, when Professor A. Macalister, LL.D., F.R.S., will distribute the prizes and deliver an address. The annual old students' dinner will be held on the same day, at 7 P.M., at the Waldorf Hotel, Aldwych, Professor M. M. McHardy presiding. Tickets, one guinea each, may be obtained from Dr. StClair Thomson, 28, Queen Anne-street, London, W.

London Hospital.—The session will be opened on Oct. 1st. The old students' dinner will be held on Oct. 1st at the Savoy Restaurant, at 7.30 P.M. Dr. A. J. Rice Oxley will occupy the chair.

St. Mary's Hospital.—The session will commence on Oct. 1st, when Sir John F. H. Broadbent, Bart., will deliver the introductory address at 3.30 P.M. The annual dinner of past and present students will be held in the Whitehall Rooms of the Hotel Métropole on Oct. 2nd, at 7 P.M., with Dr. A. P. Luff in the chair.

Middlesex Hospital.—The session will open on Oct. 1st at 3 P.M., when Dr. A. M. Kellas, Ph.D., will give an introductory address, after which the prizes gained during the previous year will be distributed by Mr. Rudyard Kipling. The annual dinner of the past and present students and their friends will take place at the Trocadéro on the same evening at 7 o'clock precisely, Dr. A. F. Voelcker being in the chair.

St. Thomas's Hospital.—The session will open on Oct. 2nd with the old students' dinner, which will take place at the Savoy Hotel, Strand, W.C., at 7.30 P.M. Mr. Thomas Wakley will preside.

University College Hospital.—The session will open on Oct. 2nd, when the medals and prizes will be distributed in the library of the hospital at 3 P.M., and Sir Edward Fry will deliver an introductory address. The annual old students' dinner will be held on the same day in the library of the school, at 7.30 P.M. Dr. A. H. Carter of Birmingham will preside.

Westminster Hospital.—The session will begin on Oct. 1st and the annual dinner will take place on Oct. 2nd at the Great Central Hotel.

Royal Free Hospital (London School of Medicine for Women).—The session will open on Oct. 1st, when an introductory address will be delivered by Dr. Harrington Sainsbury, physician to the Royal Free Hospital.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.

THE recent circular of the Board of Education[1] to local authorities has already been dealt with in a leading article, but its provisions require further notice. It was issued under Part III. of the Education Act, 1902, on certain questions arising under recent legislation concerning (*a*) the Functions of the "School Medical Officer"; (*b*) Provision for Medical Inspection of School Children under the Code of 1908; (*c*) the Local Education Authority's Annual Report to the Board of Education on Medical Inspection; and (*d*) Arrangements for Attending to the Health and Physical Condition of School Children. As stated in former circulars, the policy of the Board is to countenance a certain amount of latitude in the administration of the Act providing for the medical inspection of school children until such time as its difficulties and necessary limitations shall have been made clear.

Under the first heading (*a*) the functions of a "school medical officer" are defined. This title has been substituted for the vague expression "medical authority" which was used in the Code of 1907, and implies an official who shall be responsible to the local education authority from which he holds office for supervising and controlling the general work of medical inspection of school children, who shall report on the working and effect of any arrangements made for educating children at an open-air school or school camp, and shall have power to advise the closure of a school or the exclusion of certain children from it on "reasonable grounds." In this last duty the importance of coöperation with the sanitary authority is urged and the Board expects that "the school medical officer will naturally consider the matter from the point of view of education as well as from that of sanitation, and, while keeping in close touch with the medical officer of health will be in a position to advise the local education authority on such difficult matters." The section goes on to say that the Board does not expect that all the work detailed above can be carried out by a single officer in a large area, but that in most cases he will be assisted by subordinates. (*b*) As regards the provision by local education authorities of an adequate staff for the medical inspection of their school children, a blank schedule is appended to be filled up and returned to the Board by each authority stating the estimated number of children for whose inspection provision is to be made; the arrangements made for such inspection; the working instructions given to the staff engaged thereon, and the scope of the work contemplated. The schedule further requires the following information concerning the medical officers and nurses thus engaged:—Name; professional qualification; salary; date of commencement of duties; extent to which these occupy the officer's time (e.g., whole time, one-half, one-third); the nature of duties, distinguishing inspection from treatment; and general remarks. The Board will consider the information returned on these schedules for each area on its own merits with due regard to local circumstances and does not expect uniformity of procedure so long as it is satisfied that the inspection is adequate.

Uniformity is not expected (Section (*c*)) regarding the annual reports to the Board to be returned by local education authorities. These are to deal with the whole subject of school hygiene, including the sanitary, lighting, ventilating, and warming arrangements in each school building as well as with the detailed results of the inspection of the children. A page of the circular is devoted to a long syllabus of matters to be dealt with in the report, and under section (*d*), where their applications are rehearsed under the heading "Arrangements for attending to the health and physical condition of school children," the manifold duties of the school medical officers are described as forming a "formidable catalogue." The circular proceeds to express this opinion: "The mere fact that the services of a specially skilled officer and staff are devoted by the local education authority to the oversight of all matters affecting the health of the children in their public elementary schools gives to the whole question of school hygiene a dignity and importance which cannot but produce a considerable effect on the minds of teachers, parents, and children alike. From this point of view the school medical officer should be not merely a functionary charged with specific duties, but a pervading influence making, in the long run, for better hygienic conditions in the school and at home." The remaining sections under heading (*d*) deal with the exercise of powers under special Acts relating to school children, the methods of coöperation with the sanitary authority, advice or direction to parents, the school nurse and her functions, the provision of spectacles in cases where the parents or some voluntary association are quite unable to procure them; and contributions to hospitals, infirmaries, dispensaries, and "Children's Care Associations" for the treatment of children on terms of adequate advantage, a section which permits the inclusion among conditions of contribution of a reasonable remuneration to the medical men working for such institutions.

The last section deals with school clinics and authorises their establishment at some place more convenient than the school premises for the more thorough *examination* of cases such as ophthalmic cases, where special appliances are required. The Board forbids the use of such clinics for the regular inspection of all the children of any school. The paragraph relating to the *treatment* of children by this means, which brings the circular to a close, is sufficiently important to be quoted in full: "The establishment of School Clinics for purposes of *treatment* of defects revealed by inspection gives rise on the other hand to questions of considerable difficulty, and, before sanctioning the establishment of a School Clinic as an 'arrangement' under Section 13 (1)(*b*) of the Act, the Board will require to be furnished with detailed information as to the methods and

[1] No. 596, dated August 17th, 1908, supplementary to Circulars 576 and 582.

scope of the work which it is proposed to do. They will, in particular, require to be informed: (i.) what precautions the Local Education Authority will take to secure that only those children shall be treated in a School Clinic for whose treatment adequate provision cannot otherwise be made, whether by the parents or by voluntary associations or institutions, such as hospitals, or through the agency of the Poor Law; (ii.) what precise diseases and defects will be treated; (iii.) by whom and on what terms and conditions the treatment will be carried out and what will be its extent; (iv.) what is the estimated cost of the clinic in respect of buildings and equipment, maintenance and administration, and treatment, and how it is proposed to meet this cost, out of the rates or otherwise."

Looking Back.

FROM

THE LANCET, *SATURDAY*, Sept. 18th, 1830.

SEDATIVE QUALITIES OF THE WEB OF THE BLACK SPIDER.—The web of the black spider has received commendation from many respectable sources, as a sedative agent, capable of calming with peculiar ease and certainty, morbid excitability of the cerebral and nervous systems. On the credit of those qualities it has been employed in the various forms of temulence (exhaustion from intoxication), and not without a share of reputed success, sufficient to entitle it to consideration in that state of constitutional irritation. In the summer of 1827 we tried this article in many cases, and in full doses. To test its qualities, it was given, where the state of the patient admitted, uncombined with opiates. When thus used, its effects were generally partial or doubtful, and its powers inadequate to the production of tranquillity or sleep. In one case only have I found this substance to exert great or decided sedative attributes. This was the case of an intelligent young man, (in private practice,) who, after consuming, by his own report, three quarts of brandy, in thirty-six hours, fell into a state of temulent excitation so excessive, that he was incapable of keeping a recumbent, or even a sitting posture, for more than a moment, but paced his chamber with a ceaseless step for two days and nights. He was not delirious, on the contrary his conversation was rational, though hurried and vehement. But he was so far under the influence of spectral hallucination, that if he closed his eyes for a moment, day or night, he was instantly visited by a host of phantoms of frightful aspect; hence chiefly his aversion to lie down, or make any voluntary effort to sleep. This patient took opium, opium with camphor, and black drop at short intervals, and in full doses, until the quantum of opiate approached the utmost limit of probable safe administration, without even partial relief of constitutional irritation, or any apparent proneness to sleep. The temulent excitement kept unabated for twenty-four hours, the second night passed in constant vigilance, locomotion, and mental excitement; and it seemed probable that excitation so intense, protracted, and unremitting, must soon lapse into delirium or convulsions. At this time, the morning of the third day, (the second of my attendance,) he began the use of the fresh web in pills of five grains every hour. Its effect was prompt and unequivocal. He calmed, even sensibly to himself, with every dose, and watched with desire for the time of repeating the pills. The first effect of the web was to abate his restless movements about the room, he became disposed to sit down, and kept his chair, with short intervals of walking, for some hours. In the evening he consented to go to bed, got up once or twice, but returned to bed without difficulty, took an opiate at night, the first for eighteen hours, and slept continuously for eight hours. The cure was completed without difficulty, by repeating the web less frequently next day, with quiet, suitable nourishment, and another opiate at night. The patient spoke emphatically, both the first and second days, of the soothing influence produced by the pills.[1] He was not at the time informed of their composition.—*Dr. Wright, Amer. Journ.*

[1] An article on Spider Pills was published in THE LANCET of June 25th, 1904, p. 1815.

Public Health.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

County Borough of Swansea.—Mr. Ebenezer Davies, the medical officer of health of Swansea, must be almost if not quite the father of the public health service, and in his current annual report he furnishes a "retrospect" of sanitary work in Swansea which carries us back far into the last century, to what is in effect, from the standpoint of time, the dawn of sanitation in this country. According to a report made in 1849 to the then General Board of Health by Mr. G. T. Clark, the superintending inspector, the deaths from consumption in the Swansea district, which included the Gower Peninsula, amounted to 1 in 4·8 of the total deaths; from "typhus," which probably included enteric fever and continued fever, 1 in 11; from "epidemics, including typhus," 1 in 3·5. The report referred to stated that "nothing deserving the name of a system of drainage can be said to exist," and the bulk of the population were dependent upon pumps and open watercourses for their water-supply. But at that time there was this redeeming feature that "single-family occupancy of houses was the rule," and Mr. Davies wishes that the same observation could be made now. Gradually a sort of public health conscience evolved and the desirability of carrying out the provision of the Public Health Act, 1848, was recognised. In September, 1853, Mr. M. H. Michael, an active member of the council, was appointed medical officer of health for 12 months at a salary of £150. Mr. Michael did some hard hitting and later the cholera arrived to emphasise his arguments. But the expense of carrying out Mr. Michael's recommendations was very great, violent opposition was encountered, and before the end of the year it was resolved that the appointment should not be renewed. Attempts to make another appointment were made but unsuccessfully, and it was not until 1865, when the historical outbreak of yellow fever occurred at Swansea, that, after a report by Dr. (afterwards Sir George) Buchanan, Mr. Davies was appointed medical officer of health in October, 1865, at £100 per annum. This appointment was therefore made before the Sanitary Act of 1866 rendered certain public health measures compulsory on sanitary authorities. It is of interest, having regard to the remarkable discoveries which have since been made, to recall the Swansea outbreak of yellow fever, since it is, we believe, the only occasion in which this disease has actually spread in England. The *Heela*, the barque which was instrumental in introducing the disease, arrived off Swansea on Sept. 8th, 1865, there having been cases of illness on board the precise nature of which was not disclosed. Between Sept. 15th and Oct. 13th there were 22 cases, which were in all probability yellow fever, and seven others in which a strong suspicion of yellow fever attached to the illness. Of the 22 cases no fewer than 15 died. Of the 22 cases, 21 occurred in persons living or working in proximity to the infected ship or of that portion of the cargo which had been discharged, and there was no sufficient evidence to attribute the cases to personal infection. As Mr. Davies observes "persons lay sick of yellow fever in various parts of the town and no extension occurred from any of their centres, at least 12 in number." In the light of our present knowledge it would appear, therefore, that both the ship and the cargo retained living and infected stegomyia fasciata and that these insects did not wander far from ship or cargo, a view which receives support from recent researches as to the habits of stegomyia fasciata. In concluding his interesting retrospect in his fortieth annual report Mr. Davies compares the figures for the ten years 1866–75 with the ten years 1898–1907. In this interval the general death-rate was reduced from 23·6 to 17·7, the zymotic death-rate from 4·49 to 2·06, the "fever" death-rate from 0·75 to 0·09, and the phthisis death-rate from 2·18 to 1·45 per 1000 in each instance.

City of Newcastle.—Dr. Henry E. Armstrong's report contains a reference to nine cows which were found clinically affected with tuberculosis, four of them suffering from tuberculosis of the udder. Whilst these cows were in the cow-sheds they were being milked twice daily and they were consequently "pouring tubercle bacilli into the milk pail." It would be interesting if Dr. Armstrong could watch the

history of persons who were known habitually to have consumed this tuberculous milk. There is only one dairy to every 500 persons in Newcastle and consequently Dr. Armstrong infers that most of the milk supplying the population comes from outside the city limits, where there is practically no veterinary inspection of the cattle. It is instructive with reference to this question of tuberculosis to learn that the number of carcasses condemned for this disease was greater during the last nine months of 1907 than for any similar period previously, and that the local butchers' cattle insurance society paid to its members as compensation during 1907 the sum of £438. Dr. Armstrong thinks that a large part of compensation for tuberculous cattle should be paid for out of the public purse. Much boneless meat from America reaches Newcastle and also, of course, many other large towns. Such meat defies inspection and it is not improbable, seeing that the glands and fat are removed, that some of it may be derived from tuberculous carcasses. In Dr. Armstrong's view only whole carcasses, together with their viscera, should be allowed to be imported and everything should be subjected to inspection on arrival. It may be mentioned that in Newcastle the fat of carcasses condemned for tuberculosis has now to be thoroughly sterilised and is used in the manufacture of soap.

County Borough of Salford.—Mr. C. H. Tattersall, who is medical officer of health of this town of 236,670 inhabitants, reports that in 1901 he took into consideration the cost of dealing with pulmonary tuberculosis by the isolation of advanced cases and the treatment of early cases in a sanatorium together with the usual procedure as regards inspection and disinfection. The cost was estimated at £20,000 per annum and the sanitary committee did not feel justified in advising the council to incur such a large expenditure. The subject has again been considered by the committee but on a less comprehensive scale. It has been proposed *inter alia* to convert one of the empty large houses in the borough for the accommodation of eight patients and it is thought that this might be done for £1000 per annum. This sum, together with the expense of bacteriological work, notification fees, medical inspection, salary and provision for disinfection, would, it is estimated, bring the total annual expenditure up to £1550. Voluntary notification has already been introduced and blue and red cards are used for the purpose; the blue card indicating that the sanitary authority is not to interfere, the red cards that the visits of the inspectors are desired, but in no case is this visiting to be allowed to interfere with the opportunity for the patient to earn a livelihood so long as proper precautions are carried out. From July 14th to the end of the year 356 notifications were received, 143 cases to be visited, 213 not to be visited. Although the proposal to form a small hospital has not yet been acted upon the council has retained five beds at the Crossley Sanatorium at a cost of £260 per year. This is a good move as it will educate the council as to the value of these institutions.

County Borough of Huddersfield.—Dr. S. G. Moore, in discussing the behaviour of pulmonary tuberculosis in Huddersfield, gives a chart which, he thinks, demonstrates that the decline in the death-rate from this disease which had taken place up to recent years has now ceased and he concludes that if this arrest persists the only admissible inference is that the general sanitation of the borough is unsatisfactory. We gather that there is a disposition to allow of the erection of back-to-back houses in Huddersfield, a fact which Dr. Moore deplores, and he points out that such houses cannot have as much ventilation and light as through houses. The importance of securing plenty of direct sunlight and through ventilation as an aid to the destruction of the tubercle bacillus is obvious, as shown by numerous bacteriological experiments. Dr. Moore thinks that if every human case of tuberculosis were so dealt with as to render the escape of living tubercle bacilli impracticable there would be no guarantee that the disease itself would be arrested, and the same statement would, he says, hold true were all bovine and other domestic animal tuberculosis prevented. We have, in his view, no proof that the germs of tuberculosis do not normally exist outside of living organisms and that the bacillus may not persist among vegetable surroundings. In his opinion the soundest line of attack is to render the human "soil" unsuitable for the growth of the bacillus.

County Borough of Sunderland.—Dr. H. Renney furnishes in his current annual report some figures relative to the after-history of the cases of pulmonary tuberculosis sent by the corporation to the Stanhope sanatorium. Since June, 1901, 63 persons have been discharged from the institution; of these 35 are dead, 15 well, 6 fairly well, and 7 cannot be traced. Of those who died the average duration of life after discharge from the sanatorium was about two years. There will be considerable differences of opinion as to these figures: 15 well out of 63 treated. But it is difficult to discuss the figures as they are here presented. How many of the 15 who are well have been recently discharged? The fact is this method of presenting the after-results is not satisfactory. What the unprejudiced observer wishes to know is how many of the cases discharged in any given year are alive some four to five years afterwards and to demonstrate this the figures must be kept in the German fashion—i.e., those for each year kept quite separate throughout the successive years of observation. If Dr. Renney will adopt this practice he will be making a useful contribution to our knowledge as regards the after-results of sanatorium treatment.

County Borough of Grimsby.—Dr. W. B. Simpson draws attention to the increasing proportion of the total deaths which takes place in public institutions. The statistics are only available since 1896, when the proportion of deaths in public institutions to total deaths was 3·55 per cent., the percentage in 1906 being 10·45 and in 1907 10·60. It appears, however, that in 1896 the percentage of persons dying in public institutions was an exceptionally low one, as in 1897 it had increased to 6·32 per cent. Nevertheless, the actual increase has been very marked. Dr. Simpson attributes this increase to the growing popularity of public institutions rather than to poverty and in this he is probably correct. As regards the spread of tuberculosis by the milk of tuberculous cows, he furnishes a good instance of the manner in which apparently healthy cows may be spreading the disease by their milk. On examining the carcass of a cow recently killed he found nearly every internal organ studded with miliary tuberculosis and yet the animal had until a short time before death been supplying milk to Grimsby. There was no actual disease of the udder, but, as is now known, the milk may nevertheless contain tubercle bacilli, or if not the milk the excretions which may foul the udder. Dr. Simpson thinks that if only sterilised milk was used for human consumption there would be a very appreciable diminution of tuberculous disease in childhood.

Metropolitan Borough of Hampstead.—The vital statistics of this borough are always of interest owing to the fact that it is inhabited, for the most part, by a well-to-do class where the social conditions conduce to a low marriage-rate, birth-rate, infantile mortality-rate, and death-rate; and to some extent the figures show how intimately health is bound up with good social conditions. Taking the rates in the order mentioned above we find that the marriage-rate for 1907 was 14·2 per 1000 as against a rate for the previous ten years of 13·9 per 1000, the greatest number of marriages having taken place in the third quarter of the year. The birth-rate for 1907 (14·7 per 1000) shows a considerable decrease on the rate for previous years, an interesting circumstance in view of the increased marriage-rate. The birth-rate for London as a whole was 25·6. In Hampstead the greatest number of births was in the second quarter of the year, a fact which gives rise to interesting reflections. The death-rate was only 9·0 per 1000—the lowest on record for Hampstead. With reference to infantile mortality the remarkably low figures of 73 per 1000 births was registered, as against a rate for the whole of London of 116 and for the 76 great towns of 127 per 1000 births. This low infantile mortality Dr. G. F. McCleary attributes mainly to favourable weather conditions. But it has to be mentioned that important steps are taken by way of directly influencing this drain upon our supply of babies, there having been appointed a lady inspector to visit the children whose births are notified under the Notification of Births Act, and there being also a body of health visitors who carry on work in the same direction. The council has also obtained by-laws providing for the paving of back yards.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8338 births and 4433 deaths were registered during the week ending Sept. 12th. The annual rate of mortality in these towns, which had

been equal to 15·8, 15·6, and 14·6 in the three preceding weeks, further declined to 14·2 in the week under notice. During the first 11 weeks of the current quarter the annual death-rate in these towns averaged 13·3 per 1000, and in London the mean rate in the same period did not exceed 12·3. The lowest annual death-rates in these 76 towns during the week under notice were 6·4 in Ipswich, 6·7 in Barrow-in-Furness, and 7·3 in Hornsey and in Grimsby; the rates in the other towns ranged upwards, however, to 20·8 in Liverpool and in Tynemouth, 20·9 in Birkenhead, 22·4 in Stockport, and 27·3 in Burnley. In London the death-rate during the week did not exceed 13·3. The 4433 deaths from all causes in the 76 towns showed a further decline of 110 from the numbers returned in the three preceding weeks, and included 840 which were referred to the principal epidemic diseases, against 1343 and 1067 in the two preceding weeks; of these 840 deaths, 668 resulted from diarrhœa, 52 from whooping-cough, 39 from diphtheria, 34 from "fever" (principally enteric), 25 from measles, and 21 from scarlet fever, but not one from small-pox. The deaths referred to these epidemic diseases during the week under notice were equal to an annual rate of 2·7 per 1000, against 4·3 and 3·4 in the two preceding weeks; in London the death-rate from these epidemic diseases last week did not exceed 2·4. No death from any of these epidemic diseases was registered last week in West Hartlepool, Newport, Wallasey, or Hastings, whereas the annual death-rates therefrom ranged upwards in the other large towns to 6·6 in Coventry, 7·0 in Oldham, 8·3 in Hull, and 11·4 in Burnley. The deaths attributed to diarrhœa in the 76 towns, which had been 1134, 1123, and 889 in the three preceding weeks, further declined to 668 in the week under notice; they caused, however, annual death-rates ranging upwards to 5·3 in Walsall and in Coventry, 7·7 in Hull, and 9·9 in Burnley. The 52 fatal cases of whooping-cough exceeded those in the previous week by two; they were proportionally most numerous in Coventry, Merthyr Tydfil, and Burnley. The 39 deaths from diphtheria also showed an increase, and caused death-rates equal to 1·5 in Bootle and 2·0 in Stockton-on-Tees. The 34 deaths referred to "fever" showed a further increase upon recent weekly numbers, and exceeded the number returned in any previous week of the year; the highest death-rates from this disease last week were 1·4 in Bolton and 1·6 in Rotherham. The 25 fatal cases of measles and the 21 of scarlet fever both showed a distinct decline, those of measles being considerably fewer than in any previous week of this year; measles caused, however, death-rates equal to 1·5 in Oldham and 1·8 in Rochdale, and scarlet fever caused six deaths in Liverpool and Birkenhead and three in Salford. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 2825 and 2855 in the two preceding weeks, had further risen to 3005 on Sept. 12th; the number of new cases of this disease admitted to these hospitals during the week under notice were 472, against 377 and 395 in the two previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 132 and 102 in the two preceding weeks, rose again last week to 124, but were three below the corrected average number in the corresponding week of the five years 1903–07. The causes of 49, or 1·1 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in Bristol, West Ham, Bradford, Leicester, Newcastle-on-Tyne, Nottingham, and in 47 other smaller towns during the week under notice; nine uncertified causes of death were, however, registered during the week in Liverpool, six in Birmingham, four in Hull, and three both in Preston and in South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 15·4 and 14·8 per 1000 in the two preceding weeks, further declined to 13·7 in the week ending Sept. 12th. During the first 11 weeks of the current quarter the annual death-rate in these eight towns averaged 13·8 per 1000 and exceeded by 0·5 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 8·8 and 10·4 in Aberdeen and Perth to 14·7 in Glasgow and in Edinburgh, and 15·3 in Greenock. The 484 deaths in the eight towns showed a further decline of 39 from the numbers in the two previous weeks, and included 87 which were referred to the principal epidemic diseases, against 107, 96, and 95 in the three preceding weeks; of these 87 deaths, 52 resulted from diarrhœa, 18 from whooping-cough, five from "fever," five from diphtheria, four from measles, and three from scarlet fever, but not one from small-pox. These 87 deaths were equal to an annual rate of 2·5 per 1000, which was 0·2 below the mean rate from the same diseases in the 76 large English towns. The deaths attributed to diarrhœa in the eight Scotch towns, which had been 60 and 64 in the two preceding weeks, declined to 52 in the week under notice, and included 26 in Glasgow, six in Edinburgh and in Dundee, five in Greenock, and four both in Leith and in Aberdeen. The 18 fatal cases of whooping-cough were within one of the number in the previous week; 11 occurred in Glasgow and four in Dundee. The five deaths referred to "fever" exceeded the number in the previous week by one, all being certified as cases of cerebro-spinal meningitis; four were returned in Glasgow and one in Aberdeen. Three of the five fatal cases of diphtheria and all the four deaths from measles occurred in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 75 and 57 in the two preceding weeks, further declined to 44 in the week under notice, and were 17 below the number returned in these towns in the corresponding week of last year. The causes of 16, or 3·3 per cent., of the deaths registered in the eight towns during the week were not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 1·1 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 24·1, 22·5, and 21·7 per 1000 in the three preceding weeks, further declined to 20·6 in the week ending Sept. 12th. During the first 11 weeks of the current quarter the death-rate in Dublin averaged 19·9 per 1000; the mean rate during the same period did not exceed 12·3 in London and 13·1 in Edinburgh. The 156 deaths of Dublin residents during the week under notice showed a further decline of eight from the high numbers returned in recent weeks, and included 28 which were referred to the principal epidemic diseases, against 44, 35, and 37 in the three preceding weeks. These 28 deaths were equal to an annual rate of 3·7 per 1000; the rate during the week from the same diseases did not exceed 2·4 in London and 1·0 in Edinburgh. Of the 28 deaths from these epidemic diseases in Dublin during the week under notice, 20 resulted from diarrhœa, six from measles, and one each from whooping-cough and "fever," but not one from scarlet fever, diphtheria, or small-pox. The deaths attributed to diarrhœa, which had been 39, 26, and 28 in the three preceding weeks, further declined to 20 in the week under notice. The six fatal cases of measles corresponded with the number in the previous week. The 156 deaths from all causes during the week included 47 of infants under one year of age and 27 of persons aged upwards of 60 years; both these numbers showed a considerable decline from the numbers returned in recent weeks. Four inquest cases and three deaths from violence were registered; and 58, or 37·4 per cent., of the deaths occurred in public institutions. The causes of seven, or 4·5 per cent., of the deaths registered during the week were not certified; in London the causes of all but one of the 1221 registered deaths were duly certified, while in Edinburgh the proportion of uncertified causes of death was equal to 6·0 per cent.

VITAL STATISTICS OF LONDON DURING AUGUST, 1908.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING AUGUST, 1908.

(Specially compiled for THE LANCET.)

Cities and Boroughs.	Estimated population in the middle of 1908.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of Infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	**4,795,757**	—	**1459**	**485**	—	**83**	—	**17**	**261**	**2**	**2307**	**6·3**	—	**97**	**37**	**43**	**51**	—	**11**	—	**802**	**1041**	**2·8**	**4755**	**12·9**	**167**
West Districts.																										
Paddington	150,923	—	40	6	—	—	—	1	8	—	55	4·8	—	—	2	2	—	—	—	—	13	17	1·5	127	11·0	126
Kensington	182,752	—	36	17	—	3	—	2	5	—	63	4·5	—	—	1	1	1	—	1	—	33	37	2·6	164	11·7	222
Hammersmith	124,012	—	40	16	—	—	—	2	5	—	63	6·6	—	—	2	—	3	—	1	—	16	22	2·3	114	12·0	136
Fulham	171,562	—	23	27	—	4	—	2	6	1	63	4·8	—	2	—	4	2	—	1	—	33	42	3·2	174	13·2	211
Chelsea	75,049	—	8	5	—	2	—	—	2	—	17	3·0	—	—	2	—	—	—	—	—	14	16	2·8	71	12·3	200
City of Westminster	170,545	—	17	13	—	1	—	—	2	—	33	2·5	—	—	2	2	2	—	—	—	6	12	0·9	114	8·7	106
North Districts.																										
St. Marylebone	126,867	—	21	1	—	2	—	1	5	—	30	3·1	—	—	—	1	—	—	1	—	8	10	1·0	99	10·2	55
Hampstead	92,654	—	11	5	—	3	—	—	1	—	20	2·8	—	—	—	1	—	—	—	—	4	5	0·7	39	5·5	68
St. Pancras	237,075	—	77	19	—	7	—	1	18	—	122	6·7	—	1	2	1	4	—	—	—	37	45	2·5	230	12·6	156
Islington	349,091	—	104	31	—	6	—	—	13	—	154	5·8	—	4	2	2	7	—	—	—	24	39	1·5	313	11·7	134
Stoke Newington	54,015	—	3	3	—	—	—	—	3	—	9	2·2	—	—	—	—	—	—	—	—	5	5	1·2	37	8·9	62
Hackney	235,253	—	73	30	—	2	—	—	19	—	124	6·9	—	—	—	2	5	—	—	—	56	63	3·5	217	12·0	175
Central Districts.																										
Holborn	54,466	—	2	1	—	1	—	—	2	—	6	1·4	—	—	1	—	—	—	—	—	8	9	2·2	47	11·2	97
Finsbury	96,007	—	21	7	—	3	—	1	5	—	37	5·0	—	5	1	—	1	—	1	—	24	32	4·3	150	20·4	162
City of London	19,252	—	6	2	—	—	—	—	1	—	9	6·1	—	1	—	—	—	—	—	—	1	2	1·4	18	12·2	250
East Districts.																										
Shoreditch	115,227	—	52	13	—	18	—	—	5	—	88	10·0	—	1	3	—	1	—	1	—	45	51	5·8	159	18·0	293
Bethnal Green	131,066	—	99	26	—	3	—	1	23	—	152	15·1	—	9	4	1	1	—	3	—	34	52	5·2	188	18·7	249
Stepney	310,706	—	203	66	—	9	—	—	25	—	303	12·7	—	10	5	5	2	—	—	—	84	106	4·4	381	16·0	210
Poplar	171,516	—	91	18	—	2	—	—	10	—	121	9·2	—	6	1	3	3	—	1	—	59	73	5·5	228	17·3	224
South Districts.																										
Southwark	210,442	—	50	11	—	3	—	2	20	—	86	5·3	—	12	2	—	4	—	—	—	68	86	5·3	266	16·5	246
Bermondsey	127,910	—	43	20	—	1	—	—	9	1	74	7·5	—	22	2	1	—	—	—	—	39	64	6·5	213	21·7	265
Lambeth	321,344	—	69	29	—	1	—	1	19	—	119	4·8	—	6	—	4	4	—	—	—	41	55	2·2	291	11·8	119
Battersea	183,873	—	127	21	—	—	—	—	8	—	156	11·1	—	1	4	2	1	—	—	—	20	28	2·0	150	10·6	109
Wandsworth	289,506	—	69	18	—	4	—	2	10	—	103	4·6	—	2	—	1	3	—	—	—	28	34	1·5	236	10·6	133
Camberwell	280,022	—	46	20	—	—	—	—	15	—	81	3·8	—	2	—	2	2	—	—	—	49	55	2·6	265	12·3	157
Deptford	117,539	—	62	5	—	1	—	—	13	—	81	9·0	—	8	—	1	1	—	—	—	15	25	2·8	127	14·1	162
Greenwich	109,110	—	21	15	—	2	—	—	3	—	41	4·9	—	—	—	3	3	—	—	—	20	26	3·1	108	12·9	251
Lewisham	156,627	—	15	20	—	1	—	—	1	—	37	3·1	—	5	—	4	1	—	—	—	8	18	1·5	125	10·4	106
Woolwich	131,346	—	30	19	—	4	—	1	4	—	58	5·8	—	—	1	—	—	—	1	—	10	12	1·2	104	10·3	96
Port of London	—	—	—	1	—	—	—	—	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

equal to an annual rate of 6·3 per 1000 of the population, estimated at 4,795,757 persons in the middle of the year; in the three preceding months the rates were 6·2, 5·6, and 6·5 per 1000 respectively. The lowest rates last month were recorded in Chelsea, the City of Westminster, Hampstead, Stoke Newington, and Holborn; and the highest rates in Shoreditch, Bethnal Green, Stepney, Poplar, Battersea, and Deptford. Scarlet fever was less prevalent during August than it had been in the preceding month; the greatest proportional prevalence of this disease was recorded in Shoreditch, Bethnal Green, Stepney, Poplar, Battersea, and Deptford. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals was 2807 at the end of August, against 2707, 2514, and 2693 at the end of the three preceding months; the weekly admissions averaged 365, against 307 and 372 in the two preceding months. The prevalence of diphtheria showed a slight increase over that recorded in the two preceding months; this disease was proportionally most prevalent in Hammersmith, Fulham, Hackney, Stepney, Bermondsey, Greenwich, Lewisham, and Woolwich. The Metropolitan Asylums Hospitals contained 843 diphtheria patients at the end of last month, against 804, 768, and 738 at the end of the three preceding months; the weekly admissions averaged 110, against 105, 95, and 100 in the three preceding months. Enteric fever was slightly more prevalent than in other recent months; among the various metropolitan boroughs this disease showed the greatest proportional prevalence in Chelsea, Hampstead, St. Pancras, Finsbury, Shoreditch, Stepney, and Woolwich. The number of enteric fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 45, 48, and 54 at the end of the three preceding months, had further risen to 69 at the end of last month; the weekly admissions averaged 12, against seven, eight, and nine in the three preceding months. Erysipelas was proportionally most prevalent in St. Pancras, Hackney, Bethnal Green, Stepney, Southwark, and Deptford. The 17 cases of puerperal fever notified during the month included two each in Kensington, Hammersmith, Fulham, Southwark, and Wandsworth. One case of cerebro-spinal meningitis was recorded in Fulham and one in Bermondsey.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ending August 29th the deaths of 4755 persons belonging to London were registered, equal to an annual rate of 12·9 per 1000; in the three preceding months the rates had been 12·2, 10·4, and 10·3 per 1000. The rates of mortality last month in the several boroughs ranged from 5·5 in Hampstead, 8·7 in the City of Westminster, 8·9 in Stoke Newington, 10·2 in St. Marylebone, 10·3 in Woolwich, and 10·4 in Lewisham, to 16·0 in Stepney, 16·5 in Southwark, 17·3 in Poplar, 18·0 in Shoreditch, 18·7 in Bethnal Green, 20·4 in Finsbury, and 21·7 in Bermondsey. The 4755 deaths from all causes included 1041 which were referred to the principal infectious diseases; of these, 97 resulted from measles, 37 from scarlet fever, 43 from diphtheria, 51 from whooping-cough, 11 from enteric fever, and 802 from diarrhœa, but not any from small-pox, from typhus fever, or from ill-defined pyrexia. The lowest death-rates from these infectious diseases were recorded in the Cities of London and Westminster, and the boroughs of St. Marylebone, Hampstead, Stoke Newington, and Woolwich; and the highest rates in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Bermondsey. The 97 deaths from measles were slightly below the corrected average number in the corresponding period of the five preceding years; this disease was proportionally most fatal in Finsbury, Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, and Deptford. The 37 fatal cases of scarlet fever were equal to the corrected average number; the greatest proportional mortality from this disease was recorded in Hammersmith, Chelsea, Shoreditch, Bethnal Green, Stepney, Bermondsey, and Battersea. The deaths from diphtheria numbered 43, against an average of 47 in the corresponding weeks of the five preceding years; this disease showed the greatest proportional mortality in Fulham, Stepney, Poplar, Greenwich, and Lewisham. The 51 fatal cases of whooping-cough were 27 fewer than the corrected average number; the highest death-rates from this disease were recorded in Hammersmith, St. Pancras, Islington, Hackney, Poplar, Southwark, Wandsworth, and Greenwich. The 11 deaths referred to enteric fever were equal to only one-half of the corrected average; of these 11 deaths, three belonged to Bethnal Green and one to each of eight other boroughs. The 802 fatal cases of diarrhœa showed a decline of 470 from the corrected average number; this disease was proportionally most fatal in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Bermondsey. In conclusion, it may be stated that the aggregate mortality from these principal infectious diseases in London last month was 33 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 167 per 1000. The lowest rates of infant mortality were recorded in St. Marylebone, Hampstead, Stoke Newington, Holborn, Lewisham, and Woolwich; and the highest rates in the City of London, Shoreditch, Bethnal Green, Poplar, Southwark, Bermondsey, and Greenwich.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Surgeon David Hadden Vickery has been allowed to withdraw from His Majesty's Naval Service with a gratuity (dated Sept. 12th, 1908).

The following appointment is notified: Staff-Surgeon C. J. E. Cock to the *President*, additional, for three months' course of study at West London Hospital.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel R. Kirkpatrick, C.M.G., has joined at Devonport for duty as medical officer in charge of the Military Hospital, in the place of Colonel H. G. Hathaway, who has been appointed administrative medical officer at Portsmouth. Lieutenant Harold Græme Gibson has been appointed for duty with the South Western Coast Defences. Lieutenant-Colonel W. M. James has been appointed to the medical charge at Guildford.

Lieutenant George B. F. Churchill to be Captain (dated July 31st, 1908).

Lieutenant-Colonel Henry L. Battersby is placed on retired pay (dated Sept. 7th, 1908).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain George G. Oakley to be Surgeon-Major (dated Sept. 2nd, 1908).

ROYAL ARMY MEDICAL CORPS (MILITIA).

Captain William V. Sinclair is granted the honorary rank of Major (dated August 14th, 1908).

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd East Anglian Field Ambulance: Supernumerary Surgeon-Major John Herbert Stacy, from the 1st Volunteer Battalion, The Norfolk Regiment, to be Lieutenant-Colonel (dated 1st April, 1908). Surgeon-Major Samuel John James Kirby, from the 2nd Volunteer Battalion, The Norfolk Regiment, to be Major, with precedence as in the Volunteer Force (dated April 1st, 1908). Supernumerary Surgeon-Captain George Blake Masson, from the 3rd Volunteer Battalion, The Norfolk Regiment, to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908); Supernumerary Surgeon-Captain James Morrison Gardiner Bremner from the 1st Volunteer Battalion, The Norfolk Regiment, to be Captain, with precedence as in the Volunteer Force (dated April 1st 1908).

1st Home Counties Field Ambulance: Major Charles Pye Oliver from the Eastern Command, Maidstone Companies, Royal Army Medical Corps (Volunteers) to be Lieutenant-Colonel (dated April 1st, 1908).

The undermentioned officers from the Eastern Command, Maidstone Companies, Royal Army Medical Corps (Volunteers), are appointed to the Ambulance, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Captain John Monkhouse Rogers-Tilstone, Lieutenant John Aldington Gibb, Lieutenant Joseph Ward, and Lieutenant Arthur Thomas Falwasser. Supernumerary Surgeon-Captain William James Woodman,

from the 4th Volunteer Battalion, The Queen's Own (Royal West Kent Regiment), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Lieutenant James Stratton Warrack, from the Eastern Command, Woolwich Companies, Royal Army Medical Corps (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908).

3rd Home Counties Field Ambulance: The undermentioned officers, from the East Surrey Bearer Company, Royal Army Medical Corps (Volunteers), are appointed to the ambulance, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Captain George Alfred Edsell and Lieutenant John Alexander Preston.

3rd Lowland Field Ambulance: Major Alexander Macdonald (since deceased), from the 1st Lothian Bearer Company, Royal Army Medical Corps (Volunteers), to be Lieutenant-Colonel (dated April 1st, 1908). Captain Alexander Aitken Ross, from the 1st Lothian Bearer Company, Royal Army Medical Corps (Volunteers), to be Major (dated April 1st, 1908).

The undermentioned officers, from the 1st Edinburgh (City) Royal Garrison Artillery (Volunteers), are appointed to the ambulance, with precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain Alexander Morrison McIntosh, and Surgeon-Lieutenant James Hunter Harvey Pirie.

The undermentioned officers, from the Queen's Rifle Volunteer Brigade, The Royal Scots (Lothian Regiment), to be Lieutenants, with precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Lieutenant John Dixon Comrie, Surgeon-Lieutenant Harry Alfred Leebody, and Surgeon-Lieutenant John William Keay. Surgeon-Lieutenant John D. Comrie to be Captain (dated June 3rd, 1908).

1st North Midland Field Ambulance: Thomas Ashby Barron to be Lieutenant (dated July 10th, 1908).

3rd North Midland Field Ambulance: Charles Henry Bullen to be Lieutenant (dated July 24th, 1908).

2nd West Riding Field Ambulance: Charles William Eames to be Lieutenant (dated July 1st, 1908).

2nd Wessex Field Ambulance: Lieutenant Alfred Bertram Soltau, from the Devon Bearer Company, Royal Army Medical Corps (Volunteers), to be Lieutenant (dated April 1st), to be Captain (dated April 8th), and to be Major (dated June 25th, 1908). Edward Revely Clarke, to be Lieutenant (dated June 25th, 1908). Charles Rowland Crowther, to be Lieutenant (dated June 25th, 1908). George Hope Warren, to be Lieutenant (dated June 25th, 1908). Fielding Charles Whitmore, to be Lieutenant (dated June 25th, 1908). William Blackwood, to be Lieutenant (dated June 25th, 1908).

2nd Eastern General Hospital: Major Charles John Jacomb-Hood, from the Sussex and Kent Bearer Company, Royal Army Medical Corps (Volunteers), to be Lieutenant-Colonel (dated April 1st, 1908). Captain James Augustus Rooth, from the Sussex and Kent Bearer Company, Royal Army Medical Corps (Volunteers), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908).

The undermentioned to be officers whose services will be available on mobilisation (dated April 27th, 1908):—To be Lieutenant-Colonels: Henry Seymour Branfoot, Thomas Jenner Verrall, Edmund Hobhouse, and Reginald Francis Jowers.

To be Majors: Edward Forster Maynard, Frederick John Paley, Walter Broadbent, William Watson Griffin, Donald George Hall, Arthur Herbert Buck, Charles Frederick Bailey, and Theodore Henry Ionides.

To be Captains: Frank George Bushnell, Walter Andrew Bowring, Richard Whittington, William Herbert Brailey, William Dobree Calvert, Henry Herbert Taylor, Henry Gervis, George Morgan, Charles Henry Benham, Leonard Arthur Parry, Arthur Maurice Colcutt, Robert Sanderson, Joseph Shardlow, Arthur Jaffray Hutchison, Charles Nugent Chadborn, Arthur Geoffrey Bate, Morris Notley John Rigby, Arthur Mantell Daldy, Ryder Percival Nash, and Walter Robert Wood.

1st Scottish General Hospital: The undermentioned to be officers whose services will be available on mobilisation (dated June 27th, 1908):—To be Lieutenant-Colonels: John Gordon, James Mackenzie Booth, James John Young Dalgarno, and John Marnoch.

To be Majors: Robert Gordon McKerron, Henry McIlree Williamson Gray, George Gibb, George Rose, Alexander Rudolf Galloway, Charles Howard Usher, William Rattray Pirie, and David Watson Geddie.

To be Captains: John Reid Levack, Henry Peterkin, and James Melville Paterson Crombie.

2nd Scottish General Hospital: Lieutenant-Colonel Frank Wyville Thomson (late Indian Medical Service), to be Lieutenant-Colonel (dated July 21st, 1908).

1st Western General Hospital, Royal Army Medical Corps: Nathan Raw, to be Lieutenant-Colonel (dated July 7th, 1908). Archibald Burns Gemmel to be Major (dated July 7th, 1908).

Sanitary Service: Frederick Mann Williams, late Lieutenant 2nd (Prince of Wales) Volunteer Battalion, The Devonshire Regiment, to be Lieutenant-Colonel (dated July 28th, 1908).

The undermentioned officers, from the Volunteer Force, are appointed to the Corps, with precedence as in the Volunteer Force (dated April 1st, 1908):—To be Lieutenant-Colonels: Supernumerary Surgeon-Lieutenant-Colonel (Honorary Lieutenant-Colonel in the Army) James Duncan, from the 3rd Volunteer Battalion, The Manchester Regiment; Supernumerary Surgeon-Lieutenant-Colonel Frederic Joseph Knowles, from the 2nd Volunteer Battalion, The Prince of Wales's Volunteers (South Lancashire Regiment); Surgeon-Lieutenant-Colonel Thomas Moore Dawson, from the 1st Lancashire Royal Garrison Artillery (Volunteers); Surgeon-Lieutenant-Colonel George Hollies, from the 2nd Volunteer Battalion, The King's (Shropshire Light Infantry); Surgeon-Lieutenant-Colonel (Honorary Major in the Army) Andrew Alexander Watson, from the 2nd Volunteer Battalion, The East Lancashire Regiment.

To be Majors: Surgeon-Major Charles Averill, from the 5th Volunteer Battalion, The Cheshire Regiment; Surgeon-Major John Tatham Thompson, from the 3rd Volunteer Battalion, The Welsh Regiment; Surgeon-Major John William Ellis, from the 6th Volunteer Battalion, The King's (Liverpool Regiment); Surgeon-Major Ernest Wykeham Barnes, from the 6th Volunteer Battalion, The King's (Liverpool Regiment); Surgeon-Major Henry Christopher Lamport, from the 5th Lancashire Royal Garrison Artillery (Volunteers); Surgeon-Major James Arthur Rigby, from the 5th Lancashire Royal Garrison Artillery (Volunteers); Surgeon-Major William Fitzwilliam O'Grady, from the 1st Volunteer Battalion, The Manchester Regiment; Surgeon-Major Stephen Nesfield, from the 5th (Ardwick) Volunteer Battalion, The Manchester Regiment; Surgeon-Major Robert Jackson, from the 2nd Lancashire Royal Engineers (Volunteers); Surgeon-Major Thomas Stevenson, from the 2nd Lancashire Royal Garrison Artillery (Volunteers).

To be Captains: Surgeon-Captain John Howard-Jones, from the 4th Volunteer Battalion, The South Wales Borderers; Surgeon-Captain Charles Evan Humphreys, from the 5th Volunteer Battalion, The South Wales Borderers; Surgeon-Captain Albert Hilton, from the 3rd Volunteer Battalion, The Manchester Regiment; Surgeon-Captain Henry D'Arnim Blumberg, from the 3rd Volunteer Battalion, The King's (Liverpool Regiment); Surgeon-Captain Elisha Hodkinson Monks, from the 2nd Lancashire Royal Engineers (Volunteers); Surgeon-Captain Charles William Crawshaw, from the 2nd Volunteer Battalion, The East Lancashire Regiment; Surgeon-Captain Arthur Price, from the 4th Volunteer Battalion, The King's (Liverpool Regiment); Surgeon-Captain Alan Young Greenwood, from the 3rd Lancashire Royal Garrison Artillery (Volunteers); Surgeon-Captain (Honorary Lieutenant in the Army) Michael Joseph Mahoney, from the 6th Volunteer Battalion, The King's (Liverpool Regiment).

To be Lieutenants: Surgeon-Lieutenant Harry Armitage Robinson, from the 2nd Lancashire Royal Garrison Artillery (Volunteers); Surgeon-Lieutenant Arthur Henry Falkner, from the 2nd Volunteer Battalion The King's Own (Royal Lancaster Regiment); Surgeon-Lieutenant Frederick James Green, from the Duke of Lancaster's Own Imperial Yeomanry; Surgeon-Lieutenant Howard Henry, from the 1st Volunteer Battalion The East Lancashire Regiment; Surgeon-Lieutenant Douglas Catterall Leyland Orton, from the 2nd Volunteer Battalion, The Prince of Wales's Volunteers (South Lancashire Regiment); Surgeon-Lieutenant Samuel English, from the 3rd Lancashire Royal Engineers (Volunteers); Surgeon-Lieutenant Samuel Edward Rigg, from the 1st Cumberland Royal Garrison Artillery (Volunteers); Surgeon-Lieutenant Charles Botterill Baxter, from the 2nd Volunteer Battalion, The King's (Shropshire Light Infantry);

Surgeon-Lieutenant Andrew Edward Hodder, from the 1st Volunteer Battalion, The Manchester Regiment.

VOLUNTEER OFFICERS' DECORATION.

The Volunteer Officers' Decoration has been conferred upon the following:—

London District: (*Infantry Volunteers*): 2nd Bucks (Eton College) Volunteer Rifle Corps; Surgeon-Major Edward Stacy Norris.

Scottish Command: Infantry (*Volunteers*): The Queen's Rifle Volunteer Brigade, The Royal Scots (Lothian Regiment): Surgeon-Major John Hugh Alexander Laing. 1st Dumbartonshire Volunteer Rifle Corps: Surgeon-Lieutenant-Colonel John Robert Fleming Cullen (retired).

DEATHS IN THE SERVICES.

Fleet-Surgeon Richard Eustace, R.N., at Bournemouth, on Sept. 10th, aged 75 years. He entered the service in 1854, was appointed staff-surgeon in 1862, fleet-surgeon in 1874, and retired in 1879. He served as assistant surgeon in the Baltic in 1854, and in the flagship of Rear-Admiral Bruce, Commander-in-Chief, Pacific Station, at Petropaulovski in 1855, during the Russian war of 1854–55 (Baltic medal). He also served as staff-surgeon in the *Himalaya* on the Gold Coast during the Ashantee war (Ashantee medal), and received the thanks of the Admiralty for the care of the sick in the troopship and was specially promoted to (staff) fleet-surgeon. He was awarded the Sir Gilbert Blane gold medal for "Medical and Surgical Journal of 1873," containing, among other matters, an account of the intermittent and remittent fevers and malarious forms of dysentery, which decimated the greater part of the Royal Marines landed on the Gold Coast in the summer of 1873.

THE ARMY AND NAVY MALE NURSES' COÖPERATION.

The report of the executive committee of this coöperation, which was received at the first annual general meeting held on July 31st at 47B, Welbeck-street, under the presidency of Sir Frederick Treves, Bart., G.C.V.O., C.B., has now been published in the form of a pamphlet. It can be obtained from the secretary at the offices of the society. The report points out that the system of male nursing in England at this moment is inefficient and imperfectly organised but that the association is doing much to improve it by keeping together a class of men who have already been trained for a valuable calling.

TERRITORIAL FORCE AND CIVIL PRACTITIONERS.

Civil practitioners are not to be engaged for the medical charge of units of the Territorial Force at the annual training in camp at payment exceeding contract rates without previous authority.

Correspondence.

"Audi alteram partem."

TESTING THE VISION IN SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—The letter in THE LANCET of Sept. 12th by Dr. J. S. C. Elkington on an Improved Method of Testing Distant Vision Acuity in Schools leads me to say that all inspectors of such a function as the eyesight should be fully conversant with the use of the retinoscopical mirror—preferably a large "flat" mirror. All tests carried out by the usual methods of expressing what is seen at a certain distance are fundamentally defective, for the very simple fact that the individual whose eyeball is axially of a perfect length is the very one who ought to be most carefully examined in that there is no material left to allow for extension of the tunics of the eyeball. In other words, the more correct in shape an eyeball is in a young subject the more liable is short sight to come on if at any time the natural elasticity of the tunics of the eyeball should be lost. By means of the shadow test any approach to exactness of axial length can be instantly gauged, and if a note of such be kept a future examination will at once reveal whether any stretching has taken place. Further, the general condition of the child if at all inclined to be weakly would under such circumstances lead one to warn parents and teachers to keep careful observation on the child's near work—in fact, lead them to anticipate myopic "habits" *before* their onset. Were such children tested by the reading chart at 6 metres no defect would be discovered until *myopia had set in*, whereas had the mirror test been employed a "*tendency* to myopia" could be discovered or suspected before mischief had occurred. This anticipatory attribute of retinoscopy is the chief, but not only, reason for its adoption. It is just as expeditious and far quicker in practice in discovering hypermetropia and astigmatism. Moreover, one need not be an expert refractionist to be able to carry out the test. All that one requires is the mirror and convex lenses of 1, 1·5, and 2. The child is seated at a full arm's length from the examiner and beneath any ordinary light in a darkened room or even under the shade of an umbrella. Now the observer notes the direction of the moving shadow which is made on the pupil of the child's eye by the beam of parallel rays thrown on it by the flat mirror. If the shadow move against the direction of the beam of light we know at once the eye under observation is myopic or nearly so and, at all events, requires attention of the specialist. If, however, the shadow "move with" the motion of the mirror all that is required is to find which lens of the three possessed by the observer reverses it. If + 1 reverses, the patient should be referred to a specialist, as the eye is probably so nearly correct that actual presence of, or any tendency to, myopia must be excluded before the child is allowed to continue its studies. If, however, + 1·5 or + 2 reverse, it is advisable to try the other eye to see if there be much difference between them. Should this be the case further examination is imperative. When these lens reverse the shadow in both eyes nothing further need be done unless symptoms, such as headaches, eye-strain, &c., are complained of. Should no reversal be obtained superimpose the + 1 and + 1·5 lens, or the + 2 with either of these, and if no reversal follows we can be sure that we have to deal with a case of hypermetropia which will require the use of atropine. Reversal obtained by lenses below or of 3 D. can be left untreated unless eye-strain symptoms are complained of. In a similar manner errors of astigmatism are rapidly discovered; in fact, in many cases one glance at the line of light which is so palpably evident in astigmatism gives the case away at once without any need of the confirmatory evidence of the plus lenses. All the above cases in the great majority of instances can easily pass the visual acuity reading test and in unlearned children afford the only reliable test possible. Regarding the time occupied in testing by the reading type *versus* the mirror test there is no question which is the more rapid, and for this reason alone it is worth cultivating. Finally, in that it exposes the real axial length of the eye at the time when the vision is best and *before the onset* of myopia its adoption should be compulsory. The compulsory examination of children in public schools is one of the greatest blessings for the coming generation which have evolved by the aid of law for many years, but its great failing is that we cannot apply it to our private schools where *it is so much more needed*, at least as regards vision; hence it is the duty of all medical men to instruct their better-class patients to see that their children are sent to schools where they will at least have the same treatment as is given to that of our working classes.

I am, Sir, yours faithfully,

A. ALISON BRADBURNE, F.R.C.S. Edin.
Ophthalmic Surgeon, Southport School Board, &c.

Sept. 14th, 1908.

EXHIBITION AT THE CLINICAL MUSEUM.

To the Editor of THE LANCET.

SIR,—May I be allowed to inform your readers that we are preparing in the Clinical Museum a third classified exhibition of drawings, &c., and shall much value any assistance which they may incline to give us. Great care will be taken of all exhibits which may be sent on loan. The exhibition will deal with syphilis and all that concerns it. It will be arranged under the heads of primary, secondary, and tertiary phenomena and will give especial attention, amongst others, to the following subjects: erratic chancres, the classification and diagnosing of non-indurated sores (the ulcus molle), malignant syphilis, frambœsial syphilis, serpiginous or lupoid syphilis, syphilis of viscera, ophthalmoscopic conditions, the teeth, histology, and parasitism. The microscopic department

will be under the charge of Captain Pinch, to whom all communications should be addressed. It is not intended to keep the exhibition open longer than one month, beginning Oct. 1st. Exhibitors are invited to be responsible for the removal of their drawings, but false-backed frames will be provided for their secure exhibition under glass whilst displayed. The exhibition is open to all members of the profession on presentation of card, but those who desire to consult it more than once or to attend any lectures that may be given are invited to subscribe to the Polyclinic funds the sum of 1 guinea.

I am, Sir, yours faithfully,
JONATHAN HUTCHINSON.

The Polyclinic, Chenies-street, Sept. 14th, 1908.

RUPTURE OF THE LIGAMENTUM PATELLÆ.

To the Editor of THE LANCET.

SIR,—The statement in your annotation under the above heading in THE LANCET of Sept. 12th, p. 825, that rupture of the ligamentum patellæ has seldom been recorded has prompted me to send you the notes of the following case.

A man, aged 29 years, on Nov. 11th, 1902, slipped and fractured his right patella. No operation was performed and he recovered with very fair movement in the knee, being able to carry on his ordinary employment quite well. On August 13th, 1907, he slipped and fractured the same patella again. I saw him with Mr. A. J. D. Riddett and advised operation. This was performed a week later, when it was found that the second fracture was through the middle of the upper fragment, the original fracture being firmly united with fibrous tissue with half an inch interval between the fragments. The edges of the recent fracture were sawn off and then wired firmly together; the fibrous union of the original fracture was not interfered with. The result was quite good and the man returned to his work after three months, which he carried on till August 29th, 1908, when he slipped once more and felt his knee go again.

I again saw him with Mr. Riddett and found a lot of effusion in and round the joint with total inability to lift the leg. We decided to operate again, especially as the patient wished it, saying that his leg had felt much stronger since the last operation. On opening up the old scar we found that the patellar ligament was torn right through just below the attachment to the patella. The second fracture was found to have united with firm bony union. The old silver wire was removed and the ligamentum patellæ fixed firmly to the lower border of the patella with silver wire and some silk sutures. The original fracture was in the same condition as at the previous operation. The wound has now healed and it will be interesting to see what the functional result will be and also whether it will be the quadriceps tendon's turn to go the next time he falls.

I am, Sir, yours faithfully,
Leicester, Sept. 12th, 1908. F. BOLTON CARTER.

THE VARIATIONS IN THE PHAGOCYTIC POWER OF LEUCOCYTES FROM DIFFERENT INDIVIDUALS AND ITS BEARING UPON THE OPSONIC INDEX.

To the Editor of THE LANCET.

SIR,—Sir A. E. Wright has stated that "we may take the opsonic index of any blood as an index of the patient's power of phagocytic response."[1] According to this one person is less resistent to a staphylococcic infection than another, partly because his blood is deficient in opsonin, certainly not because there is an inherent deficiency in the phagocytic capacity of the leucocytes themselves.

In a paper read by two of us (E. E. G. and W. Y.) before the Pathological Society of Great Britain and Ireland in January, 1908, we stated that the phagocytic power of the leucocytes of one individual may constantly differ from that of another individual. This was tested according to the technique of Wright with an emulsion of staphylococcus albus.

[1] THE LANCET, August 17th, 1907, p. 427.

We have recently made further observations upon the blood of two individuals, "A" and "G," estimating the degree of phagocytosis to staphylococcus obtained with (1) "A's" and "G's" serum respectively with the *same* leucocytes—i.e., comparing the opsonising influence of the serum upon phagocytosis; (2) "A's" and "G's" leucocytes respectively with the *same* serum—i.e., comparing the influence of the leucocytes upon phagocytosis; and (3) "A's" serum with "A's" leucocytes and "G's" serum with "G's" leucocytes—i.e., comparing the total phagocytic power of the blood. Three indices were calculated in this way, using "G" as control at intervals of three days for one month. On July 20th, for example, "A's" indices were the following: (1) 1·15 (mean of three separate observations), (2) 0·83 (mean of three separate observations), and (3) 0·98 (mean of two separate observations). Therefore, though "A's" opsonic index was definitely above that of the control the total "power of phagocytic response" was practically equal, because "A's" leucocytes were deficient in inherent phagocytic power. "A's" and "G's" red corpuscles were not agglutinated by any of the sera used; systematic examination of their blood revealed no leucocytosis.

We intend at an early date to publish a detailed account of the observations we have in hand and the conclusions we have arrived at.

We are, Sir, yours faithfully,
ERNEST E. GLYNN, M.A., M.B. Cantab., M.R.C.P. Lond.,
Lecturer in Clinical Pathology and Morbid Anatomy, University of Liverpool; Pathologist to the Liverpool Royal Infirmary;
WARRINGTON YORKE, M.B., Ch.B. Liverp.,
Late Holt Fellow in Physiology, University of Liverpool;
G. L. COX, M.A., M.B. Cantab.,
Holt Fellow in Pathology, University of Liverpool.
August 24th, 1908.

A PERSONAL MATTER.

To the Editor of THE LANCET.

SIR,—My attention has been directed to the recent distribution, for advertising purposes, of a pamphlet bearing my name. The facts are as follows:—

In 1906, when acting as foreign editor of a medical journal, the editor asked me to make an abstract of an article in the *Berliner Medizinische Klinik* by Professor Gumpert. The abstract was published as an article under my name, although I had given no authority therefor; it is the only time my name has appeared in this journal. Copies of my abstract were bought, I believe in good faith, from the journal in which the abstract appeared, the sale being without my consent or knowledge. The heading "A Contribution, &c. By T. P. Beddoes," has led many to conclude that I claim the credit of the original work described, which is entirely due to Professor Gumpert and his collaborators.

Yours faithfully,
Sept. 14th, 1908. T. P. BEDDOES.

*** We should be interested to learn the name of the medical journal.—ED L.

THE PREVENTION OF TUBERCULOSIS (IRELAND) BILL.

To the Editor of THE LANCET.

SIR,—May I say that I believe your attitude with regard to the Compulsory Notification Clauses of the Irish Tuberculosis Bill is entirely wise? Unlike Sir John Byers, I am not a professor of midwifery, but, after all, a medical man who is a member of a sanitary authority is perhaps in closer touch with the prejudices of people who will be affected by the Bill.

Knowing what I do of the Irish people, I believe that the Compulsory Notification Clauses will excite so much suspicion and dread as effectually to undo any good result heretofore obtained from the tuberculosis campaign. People simply will not go to a medical man if they think that by so doing they may be listed as tuberculous. I fully recognise that the anti-tuberculosis movement in Ireland has done much good, but it has a source of weakness in not being largely controlled by those in close touch with the popular party—and thus its

success can quickly be changed to failure. My experience of public boards in Dublin leads me to think that it is very easy for a medical man who happens to be a member of such a board to induce his colleagues to undertake considerable sanitary reforms if they are satisfied he is acting unselfishly. Thus, the South Dublin board of guardians has erected, on my motion, a well-equipped tuberculosis hospital under Dr. Dunne, and the Dublin corporation has also, on my initiative, determined to devote the product of 1*d.* in the pound out of the rates every year on a sanatorium, for which a site has already been selected. But members of such boards are prone to suspicion, and it is difficult to assure them that a practitioner is entirely unbiassed if he advocates a system of notification which will put half-crowns in his pocket, whilst it impales for life the person notified.

I am, Sir, yours faithfully,
J. C. MCWALTER, M.D. Brux., M.A.,
F.F.P.S. Glasg., D.P.H.,
Dublin, Sept. 13th, 1908. Alderman, City of Dublin.

IS COWPER FORGOTTEN?

To the Editor of THE LANCET.

SIR,—A few weeks ago, by the courtesy of the press, I invited subscriptions to a fund to enable the committee of the Cowper and Newton Museum, Bucks, to place that memorial of the poet and his friend upon a substantial basis. We need about £2500, and the newspapers of the United Kingdom, of the Colonies, and the United States of America have been most kind in their hospitality. Up to the present time we have received £3 in subscriptions. One may well ask, Have we forgotten Cowper, the gentle poet, the author of "John Gilpin," "The Task," and of so many beautiful hymns, including "God moves in a mysterious way" and "Hark, my soul! it is the Lord"? We are not disheartened yet; we are waiting for the English-speaking people of the world to come forward and provide this modest sum of money.

The secretary is Mr. Thomas Wright, to whom subscriptions should be addressed. His address is The Cowper and Newton Museum, Olney, Bucks.

I am, Sir, yours faithfully,
JOHN COLLINGRIDGE.
Aldersgate-street, London, E.C., Sept. 9th, 1908.

CONTROL OF DISINFECTANTS.

To the Editor of THE LANCET.

SIR,—Our attention has recently been called to the fact that in several of the tender forms calling for supplies of disinfectants issued by medical officers of health, among them those of the City of London and the borough of Holborn, one of the conditions imposed requires that the disinfectant *shall not separate out on standing*. We wish to draw the attention of your readers to the indefiniteness of such a condition, although we agree that it is very important, in the interests of public health, that disinfectants should, when mixed with water, form a permanent emulsion, especially as in many cases the disinfectant solution is kept for some time before use.

In many of the disinfectant emulsions commonly used in this country the active ingredient will separate out on standing under certain conditions of time, temperature, and dilution. In our several laboratories we have endeavoured to ascertain the relative value of disinfectants from this point of view by taking the precaution of making the test, which is known under our names, on 1 per cent. solutions or emulsions of the disinfectant after such dilution has been allowed to stand for 24 hours prior to the test being made, and we therefore venture to suggest that in order to insure uniformity of result our practice should be followed by other workers—viz., that before applying the Rideal-Walker test to a disinfectant a 1 per cent. solution should be prepared at normal temperature in an ordinary one-mark stoppered litre flask, such as is used in volumetric analysis, the portion required for further dilutions in the test to be pipetted from the top of the flask after 24 hours' subsidence, avoiding the withdrawal of any insoluble matter which may be floating on the surface.

We are, Sir, yours faithfully,
SAMUEL RIDEAL.
J. T. AINSLIE WALKER.
Chemical Laboratory, Victoria-street, Westminster, S.W., Sept. 9th, 1908.

A RECENT ALTERATION IN THE MEDICAL DIRECTORY.

To the Editor of THE LANCET.

SIR,—The receipt of the usual slip sent out annually for correction by the editors of the Medical Directory prompts me to ask for a little of your space in order to protest against a recent alteration (made I think for the first time last year) which to my mind is far from being an improvement. I refer to the "Local List" for London which follows the alphabetical list of names. Formerly the names in this local list were given under the streets with, I fancy, the numbers of the houses. Now, I suppose with the idea of saving space, the names are given in many instances under districts—e.g., Camberwell—without any indication of the streets or numbers. With regard to the streets there does not seem always to be a very definite plan. It is surely absurd that the name of Dr. A who resides in Devonshire-*street* should be found under that street whilst if one seeks for Dr. B who lives in Devonshire-*place* it is practically impossible to find him, Devonshire-place being omitted. It is true that the name is entered *under Portland-place* but how can one possibly guess such a conundrum? Again the massing together of names under districts is most inconvenient—indeed, practically useless. I beg you, Sir, to use your influence to persuade the publishers of this otherwise most useful work to return to their former arrangement.

I am, Sir, yours faithfully,
Sept. 13th, 1908. NON ŒDIPUS

A QUESTION OF SOBRIETY.

To the Editor of THE LANCET.

SIR,—I am sorry to find myself at variance with so distinguished a physician as Dr. C. A. Mercier[1] as regards the different influences of drink on sober and drunkard.

Most people would, I suppose, call me sober—I hardly ever touch intoxicating liquor except with the definite intention to be sociable. I keep a good whisky and a tolerable port in case any friends drop in, but I do not suppose I have got through a bottle of whisky this year by myself. It was not ever thus. 15 or 20 years ago I drank as much as my neighbours and liked it—I found it increased sociability at the time but impaired work afterwards. I found that the more alcohol I drank the more I wanted to drink—one split or one cocktail was very little good, it only wetted the palate and whetted the thirst for another. Further, the expense I found considerable. So to my very great regret I concluded I had to give up drink almost altogether and I did do, swayed not by inclination but by prudence. I cannot assign myself to the class mentioned by Dr. Mercier who cannot get drunk if they try, and this although I have never tried. A cousin of mine might at one time have been almost described as a drunkard. His own self-control was not enough to keep him straight, but he married and his wife reinforcing his self-control he is now undoubtedly sober. I venture to think that Dr. Mercier's is one of those hypotheses which may do great harm and should not be sown broadcast till they are completely proved. It is much safer to preach to the drunkard that the fault is in his own weakness and that heaven helps those who help themselves. Somewhat naturally, I do not sign my name.

I am, Sir, yours faithfully,
August 27th, 1908. M.D.

[1] THE LANCET, August 8th, 1908, p. 411.

THE DEVON COUNTY COUNCIL AND THE MEDICAL INSPECTION OF SCHOOL CHILDREN.—At a meeting of the Devon county council held on Sept. 11th it was decided to adopt the resolution of the education committee and to appoint three medical inspectors of school children at a salary of £250 per annum each, with reasonable travelling and hotel expenses. The successful candidates will be required to devote the whole of their time to the duties and to work under the supervision of the county medical officer of health. An amendment was moved to the effect that the education committee should ascertain whether the medical officers of health in the county would undertake the work, but this was defeated by a large number of votes.

THE EYESIGHT OF CHILDREN ATTENDING ARMY SCHOOLS IN INDIA.

(FROM AN INDIAN CORRESPONDENT.)

THE hygienic condition of army schools in India, particularly with regard to the question of vision, has recently been the subject of an inquiry. Specialists in ophthalmology were sent to the following stations to examine the vision of the children of British soldiers over seven years of age, and to give the parents concerned necessary information regarding the spectacles required where such were considered necessary:—Rawal Pindi, Peshawar, Nowshera, Ambala, Sialkot, Calcutta, Bareilly, Fyzabad, Lucknow, Meerut, Karachi, Mhow, Ahmednagar, Poona, Kirkee, and Bombay. The inspecting officers were also directed to report on the lighting of schools and the structural alterations necessary to improve it, together with the type of desks and seats used, with special reference to their adaptability for proper vision, and other subsidiary factors connected with the vision of school children. The result of these inspections is briefly as follows.

VISION.

This was tested by means of Snellen's test types, every child being required to read with each eye separately D—6 at 20 feet and D—0·6 at 10 inches. Any child who could not read the types was subsequently seen at hospital, where the refraction was ascertained under a mydriatic. The parents were then informed of the nature of the visual defect and advised as to what spectacles to procure. With few exceptions the parents provided the glasses at their own expense. The result of the examinations is shown in the following table:—

—	Actual numbers.	Percentages.
Total number examined	612	—
Number with defective vision	99	16
Hypermetropia	*55	11
Hypermetropic astigmatism	12	
Myopia	7	2
Myopic astigmatism	7	
Mixed astigmatism	7	1
Leucoma	2	—
Aphakia	1	—
Convergent squint	†18	3
Divergent squint	‡1	
Trachoma	13	—
Nystagmus	1	—
Dislocation of lens	1	—

* Includes 16 cases of squint.
† Hypermetropic, 15; leucoma, 2; aphakia, 1. ‡ Hypermetropic.

Slight cases of hypermetropia with 6/6 vision, in which muscular equilibrium was perfect and which did not require correction by glasses, are not shown amongst those with defective vision. In one case, a child with myopic astigmatism was found to be wearing + 1 spheres. In another class a child was found with 1/60th vision (each eye) due to partial dislocation of the lenses. In several cases it is remarked that children who were considered wanting in intelligence became quite bright and intelligent after the supply of glasses. The percentage of cases of myopia is much the same as is usually found in school children of the age examined. The large majority of children seen were below 12 years of age, whereas myopia attains its greatest frequency between 12 and 18 years.

It will be noticed that 19 cases of squint were found. According to Worth, 75 per cent. of cases of unilateral squint appear before the end of the fourth year, and in 53 per cent. of alternating cases the deviation is seen before the end of the second year. This being so, it appears desirable that the eyes of all children should be examined by a medical officer for early signs of squint and other visual defects before school attendance is commenced.

LIGHTING.

With the exception of the schoolrooms at Karachi and Colaba, the lighting in all cases was found to be defective and in some instances very bad, notably the schools for adults and elder children at Calcutta, Fyzabad, Ahmednagar, Rawal Pindi (cavalry) and Mhow (cavalry), and the infants' school at Meerut. The rooms referred to at Ahmednagar and Mhow are described as very dark and ill-ventilated. In some schools the lighting was so defective that the inspectors found that lamps had to be used on dull mornings. The defective lighting was found to be due chiefly to the fact that most schools were not built as such, but are old barrack-rooms re-appropriated and so constructed that to improve the lighting is a difficult matter. The defects in lighting have been brought to notice and representations made indicating the structural alterations necessary to improve it so as to render the building suitable for school purposes. In the majority of cases this can be done at small expense by enlarging and increasing the number of clerestory windows, reducing the woodwork in windows, and increasing the glass area generally. The necessity for so arranging matters as to insure a larger glass area on the side (left side of the pupils) from which the major portion of the light enters has been pointed out. It has been recommended that sunshades should be removed from all clerestory windows on the north side and that those over other windows should be hinged so that they may be raised during the winter months. Attention has been drawn to the desirability of colour-washing the walls of schools pale green and a recommendation has been made that an order should be issued and embodied in regulations to this effect. Softer light would be obtained and glare from the walls would be prevented. In nearly all schools the walls are at present whitewashed.

DUTIES OF TEACHERS IN CONNEXION WITH EYESIGHT.

In addition to the defective lighting the report states that in many cases the light is not properly directed on to the desks. In some cases children are to be seen sitting facing the glare from windows, while in others they have their backs to the light, or the light comes from the right. This incorrect placing of desks is due in some cases to ignorance on the part of teachers of the fact that the preponderance of light should always come from the "left" of the scholars; in other cases it is due to inability on the part of schoolmasters so to arrange the desks as to obtain the above effect, as a result of narrowness of the rooms, length of desks, or difficulty in arranging classes and blackboards so that a side light from the left is obtained. Considering this, and the fact that 19 cases of squint were found, of which some had not been sent to hospital for treatment, it would appear that army schoolmasters fail to realise their responsibilities in preventing the deterioration of vision of the children who are constantly under their observation. With a view to rectifying this a short list of instructions detailing "the duties of schoolmasters in connexion with eyesight" has been drawn up.

DESKS AND SEATS.

In all schools (with the exception of five desks at Rawal Pindi and a few at one or two other stations) the desks and seats are very unsuitable for children. Those supplied for elder children are in nearly all cases too high, being intended for men. The result is that children seated at such desks assume faulty positions; the feet hang some distance from the ground or rest in an awkward position on foot-rails, and the weight is supported partly on the left arm and partly on the chest which is pressed against the desk. In all cases the seats are too broad; in very few instances have back-rests been provided, and even when present they slope at too great an angle. The seats are forms and are placed at varying distances from the desks, the result being that to reach the desk the body is bent forward and the head falls towards the desk as the muscles of the neck become tired. The eyes being too near the book accommodation and convergence are strained, the eyeball is compressed by the recti muscles, and myopia or strabismus is liable to result. The following extracts from one of the reports will serve to illustrate this:—

(*a*) It was noticed that three children, about eight years of age, were sitting at a desk; the form was 20 inches in height, the front edge of the desk was six inches from a perpendicular let-fall from the scholar's edge of the desk, so to reach the desk, which was 29 inches in height (scholar's edge), they had to bend over. These children were stooping over their books writing, their eyes two and a half inches or so from the books. One of these children I found to be suffering from a high degree of myopia; the other two children were, probably unconsciously, copying the example of the elder myopic child.

(*b*) The desks are those usually supplied for adults with forms as

seats. They are quite unsuitable for children. ..... Children of the age attending sit with their feet resting on the foot rails of the desk, their elbows spread out, and the head bent over the desk, the child's face when writing being about six inches from the desk. The seats are too high and have no back-rests.

To reduce the height a number of adults' desks have been cut down, but by this means they are not rendered suitable in many respects for children and are too low for the men. In all infants' schools, too, either adults' desks have been cut down or forms are used as desks should the present standard plan of infants' desk not have been supplied. Even if the standard plan desks have been supplied they are so broad as to render it very difficult for a child to reach the ink, and they are unsuitable in some other respects. Kindergarten work cannot be carried out on a sloping desk, hence the use of forms as desks. The seats are moveable and those which have back-rests slope at too great an angle. The whole arrangement is most unsatisfactory and favours the development of squint, myopia, spinal curvature, and other deformities. In India the provision of suitable desks for children and the improvement of the lighting of schools is, if possible, a matter of greater importance than in England, on account of the fact that in India there are so many causes of enfeeblement of health, with consequent weakening of the muscles and tunics of the eye.

The urgent necessity for the provision of a new type of infants' desks and of some form of adjustable desks for adults and elder children, both of whom of necessity have to use the same desks (on account of want of accommodation), has been pointed out. A plan of a suitable infants' desk has been prepared and a specimen of an experimental adjustable desk for adults and elder children has been made and is being reported on.

BOOKS AND TYPE.

Another important subsidiary cause in the deterioration of eyesight of school children was inquired into—namely, the use of small, ill-defined, closely-set type which, even in a well-lighted room, necessitates holding the book at a shorter distance than 12 inches from the eyes. With two very notable exceptions, the type has been found large, distinct, and well spaced. The exceptions are the Bible and Prayer Book. According to Appendix 7 of the "Standing Orders for Inspectors of Army Schools, 1906, Course of Religious Instruction," "..... In every lesson a portion of Scripture will be read, in part by the teacher and in part by the children of Standards VI. and VII." The type of the Bible and Prayer Book at present in use is much too small; the necessity for at once changing these books for ones with larger type has been represented.

GENERAL REMARKS.

The urgent necessity for improving the lighting of our army schools in India and of supplying suitable desks for children has been clearly shown by the reports submitted by the specialists in ophthalmology. The connexion between shortsightedness and schools is intimate; statistics show that the amount of myopia is in direct proportion to the amount of education. "Acquired" myopia is frequently due to the insufficient lighting of schools or to the stooping of children over their books. The present condition of our army schools in India, as regards lighting and desks, undoubtedly favours the development of myopia and deformities. If the lighting of the school room is defective the child to see clearly has to stoop over the desk and to approximate the eyes unduly near the book. It must be remembered that shortsightedness, when once established, is liable to become progressive and to handicap a child seriously in after life. The inspections now reported on have not only resulted in the correction of errors of refraction by the supply of glasses to 80 children, but it is hoped will also result in the remedying of serious defects (summarised below) in the schools. The attendance at school being compulsory, there can be no question as to the moral obligation to light the buildings properly and to supply suitable desks and seats for children.

SUMMARY OF RECOMMENDATIONS.

(*a*) That the lighting of schools be improved.

(*b*) That a new standard plan of infants' desk be adopted for infants' schools.

(*c*) That a certain number of adjustable desks of the pattern used in England be supplied for adults' and elder children's schools. Should the cost of supplying such desks be prohibitive, adjustable desks to be made locally.

(*d*) That all children should have their eyes examined for commencing squint and other defects before beginning school attendance.

(*e*) That the attention of schoolmasters be drawn to their responsibilities in preventing the deterioration of vision in children.

(*f*) That an order be issued and embodied in regulations to the effect that the walls of schoolrooms be colour-washed pale green once a year.

(*g*) That sunshades from clerestory windows on the north side of all schools be removed and that sunshades over other clerestory windows be hinged, so that they may be raised during the winter months.

(*h*) That the Bibles and Prayer Books at present issued to schools be replaced by others with larger type.

THE FRANCO-BRITISH EXHIBITION.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

TUBERCULOSIS AND THE FRENCH TOURING CLUB.—PEACE AND SCIENCE.—FRENCH DRUGS AND FRENCH GASTRONOMIC DELICACIES.

IN view of the International Congress on Tuberculosis which will meet this month at Washington the exhibit of the French Touring Club commends itself to notice. Unfortunately, this is in no wise so good an exhibit as that made at the Grand Palais of the Champs Elysées when three years ago the same congress met at Paris. On that occasion two rooms were shown. First, there was the old traditional hotel bedroom, with the wooden bed, heavy curtains above, and no free passage of air underneath. Then close up to the head of the bed stood the evil-smelling bed table. On all sides were carpets, heavy window curtains, and stuffed upholstery; in fact, everything seemed combined to facilitate the harbouring of dust and the multiplication of germs. By the side of this stood the sort of room which some 4000 hotels have now installed in response to the pressure brought to bear upon them by the Touring Club. The model room alone is shown at the present Franco-British Exhibition. By itself it fails as an object lesson, for it affords no contrast, nor are there sufficient explanations given; therefore, most persons pass by without understanding. Yet this is a very useful and practical exhibition. The Touring Club recommends its members to frequent such hotels (and affixes its name over the entrance door) as furnish their bedrooms in the manner here shown and instal a sanitary system of drainage. Thus there are painted and washable walls and therefore no wall paper. There are no curtains to the beds, no wooden beds, and the bed table or night-commode is done away with. One or two moveable rugs on the polished beeswaxed floor replace carpets and there is no upholstered furniture or heavy window drapery. Thus have the principles of sanitation been taught by the Touring Club and they have greatly contributed to render travelling and the sleeping in strange places much less dangerous than formerly. This is truly an excellent means of waging war against tuberculosis and also many other diseases.

Not far from the Touring Club room the French Minister of Foreign Affairs has an exhibit which covers a large space on the wall and summarises in a most graphic manner the upshot, the genuine practical result, of this and other international exhibitions, international congresses, and international manifestations of the *entente cordiale* that should prevail between all nations. As lovers of science we must of necessity be ardent advocates of peace and no one can contemplate the magnificent exhibit of the French Minister of Foreign Affairs without feeling a glow of satisfaction and hope, for here we have clearly demonstrated that in spite of cynics and pessimists the cause of peace has made gigantic strides. The exhibit consists of a huge map of Europe with lines drawn from capital to capital showing how the nations have established bonds of amity by concluding treaties pledging themselves in case of dispute to resort to arbitration instead of war. Of such treaties there only existed two in 1903. In 1908 no less than 60 treaties of obligatory arbitration had been signed, showing the immense progress of the peace cause in only five years. First on the list stands Great Britain which has concluded 12 such treaties. Next come Portugal and Switzerland with ten

treaties. Then Spain, France, Italy, and Norway with nine; Belgium, Denmark, and Sweden with eight; the United States of America with seven such treaties; and other nations with a smaller number. Various diagrams and "graphics" illustrate all these facts and they seem to point the moral and to explain the significance of the whole exhibition and such similar international efforts. Obviously exhibitions are a work of peace. Without peace, science, especially preventive medicine and sanitary science, would make but scant progress.

A few steps further and the very complete and well-arranged French drug section is reached to which a very brief allusion has been already made. Here many old and well-known friends meet the eye such as the papier Rigollot form of mustard poultice and the ever-popular Tamar Indien, the effective laxative that looks and tastes like a sweetmeat. The Clin laboratories were founded in 1864 by Dr. Clin who obtained the Prix Montyon. Here have been produced the fer Rabuteau and the bromide of camphor much used by Professor Charcot and Professor Bourneville. More recently, under the management of Messrs. F. Comar et Fils et Cie., some modern drugs have been put on the market and are now exhibited. There are, for instance, various cacodylates and metharsinates which permit the administration of large doses of arsenic; and the new salicylarsinate of mercury. Opposite this exhibit Messrs. Berlaut-Blancard Frères have specimens of catgut prepared according to the interesting method devised by M. J. Triollet and described in the annals of the Pasteur Institute. A catgut used for surgical purposes must be supple but if sterilised with dry heat it will be brittle. The catgut exhibited is rolled round a bobbin and placed in a receptacle containing acetone and sterilised at 120° C. for 40 minutes. When this is done the receptacle is not opened but simply turned upside down. A little sterilised water which had been placed inside the bobbin is spilt, and as it reaches the catgut only after the sterilisation is over helps to soften it without great injury to its qualities. The process is ingenious but difficult to explain in a few words. There are also in this section the exhibits from the works of Poulenc Frères that date back to a small drug store established in 1827. They now produce a great variety of chemicals used in pharmacy, science, photography, metallurgy, and also in the china, earthenware, and glass industries. Of special interest is the fact that they have been appointed the sole selling agents for the preparations of the Pasteur Institute at Lille. These consist of Dr. Calmette's anti-venom serum used in cases of snake bites and the powdered antitetanic serum for dressing wounds, together with the recently discovered tuberculin test for the ophthalmo-reaction of tuberculosis.

Of other French firms having their exhibits close at hand, we may mention Messrs. Roure-Bertrand Fils and other great distillers from Grasse who make extracts from flowers for the manufacture of scents. Then in a glass case there is a mysterious pile of small white paper tubes looking like a pyramid made with collapsed and half-empty cigarettes. These are cigarette papers but they contain and shield from the air and its microbes "Le Negri" sterilised toothpicks. As something toothsome there is to be seen just opposite the phosphatine Fallière, a food for young children and invalids, consisting of sterilised flour, with a slight addition of phosphates, and some finely flavoured chocolate. Boiled with milk we have here something that is really delicate and pleasant, while it is a useful food for the weak and the young.

In regard to nutritious substances that constitute at the same time an epicurean delicacy we have in the horticultural and gardening section a very graphic exhibit of those Parisian mushroom beds which produce the small, white, firm nut- or button-shaped mushroom without which a real chef would not deign to prepare a meal. Not only are the actual beds there with the mushrooms growing on them, but there are many photographs of those innumerable underground passages which honeycomb a great part of Paris. Here the beds are built up and here these gastronomic delicacies are grown and then exported to many foreign countries. The details in regard to a still greater delicacy are also given in this section and we see where and how truffles are grown. Photographs also are suspended to the wall of that modern Tantalus, the pig, which is ever digging the truffles out of the ground but is forced to drop them before it has time to enjoy a bite or two. There is a great deal to be seen relating to technical instruction for the production of aliments, butter, cheese, fruits, and the preservation of fruits. Indeed, for food and for wines France has naturally much that must interest British subjects since we are the best customers of the French cultivator or vineyard proprietor.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS AT WASHINGTON.

(FROM A SPECIAL CORRESPONDENT.)

IT will, perhaps, be useful to describe a little more in detail the way in which the subjects for discussion will be arranged in the seven sections which I enumerated last week.[1] The meetings may be the occasion of no such piquant episode as characterised the meeting in London when Professor Koch startled the medical world by his crisp statements as to the want of infectivity of the bovine tubercle bacillus for the human subject and the converse. It is evident, however, from the provisional programme which has reached us that in each of the seven sections questions of great scientific and practical interest will be brought forward. There will, of course, be some overlapping of the work of the different sections but the arrangements have been well thought out and the material at the disposal of the committee well organised.

As a kind of echo from the British Congress we have as the first item on the list of subjects for discussion Variations of the Tubercle Bacillus, especially as regards Virulence, a subject on which a good deal of information has been collected during the last few years, and we may anticipate a somewhat lively discussion if the "stalwarts" from different camps settle down to their work. Immunity in tuberculosis, mixed and concomitant infections, the pathological characters of congenital tuberculosis and of tuberculosis in infancy and childhood will all receive attention, whilst bearing on the question of the variations of the tubercle bacillus, the lesions, especially the primary lesions, produced by this organism are to be considered, as are also the sources and channels of infection, especially the lungs, whether from without or from surrounding organs and tissues. The work of Section II. is divided into three symposia: In the first the diagnosis and Treatment of Early Cases of Tuberculosis in which the use of x rays, the opsonic index, and the conjunctival and cutaneous tuberculin reactions will probably come in for special consideration. A number of other subjects, such as diet in pulmonary tuberculosis and the physiological effects of residence in high altitudes upon consumption, will also be discussed. In the second symposium tuberculin and its derivatives and the serum treatment are to be considered, whilst in the third sanatoriums, hospitals, dispensaries, and home treatment for tuberculosis are set down for discussion. For this part of the section a programme of most useful papers has been prepared and a good many of the State and municipal delegates will probably spend a considerable part of their time in following the discussion in this section, though the counter-attraction of some of the other sections will be very great.

In Section III., that of Surgery and Orthopædics, tubercle of every organ of the body is to be considered and the surgical treatment of tuberculosis and such questions as the Prevention, Diagnosis, and Surgical Treatment of Tuberculous Sinuses and Abscess Cavities; Acute Forms of Abdominal Tuberculosis; Indications for Operative Treatment for Bone Tuberculosis; and Wright Vaccination being representative headings of discussion in this section. In Section IV. we have a regular syllabus which reads almost like the contents page of a "work by many authors" on tuberculosis in children. The thing that will strike anyone on going over this syllabus is that three weeks, even if the discussion is continued the whole time, is a very short period in which to tackle such a large number of questions. The same remark applies to Section V., but it is seen in this case that the main questions to be tackled will form a very small portion of the official programme, as a good many of the points laid down are already accepted and will probably lead to a very little discussion, whilst on others very little information can possibly be forthcoming. At the same

[1] THE LANCET, Sept. 12th, p. 840.

time it is seen that much may be brought forward concerning the economic aspects of tuberculosis, adverse industrial conditions, the social control of tuberculosis, early recognition and prevention of the disease, after-care of arrested cases, educational methods and agencies, promotion of immunity, and responsibility of society for tuberculosis. Under this last heading we see there is to be a symposium of representative citizens, social workers, employers, employees, physicians, nurses, educators, and others. The provisional programme for Section VI., though set forth in comparatively few lines, promises to provide as much material for discussion as will any of the others, as here the Congress is invited to discuss "laws and ordinances relating to tuberculosis, especially with reference to infection"; "governmental care of tuberculosis patients in the home, dispensary, sanatoria, tuberculosis farms, camps, &c."; "educational propaganda and scientific research under governmental auspices"; "sanitary measures in the home including disinfection, better housing, ventilation, &c."; "sanitary surveillance over travellers and those engaged in trades and occupations in public buildings, factories, workshops, &c."; "prevention of tuberculosis amongst children and adolescents, including the subjects of heredity, environment, schools, factories, playgrounds, &c."; and "collection of statistics."

To Section VII. some 34 authors have already promised to contribute papers which will deal with the prevalence of tuberculosis among domestic animals, the roads of infection, diagnosis, and the question of resistance to tuberculosis, the methods for the control of tuberculosis in animals applicable in heavily infected herds and districts, and giving if possible the results of operations in different countries and in various states of the United States, the comparative bacteriology and pathology of tuberculosis in animals, the relation of tuberculosis in animals to the public health, including the evidence for and against the transmission of tuberculosis from animals to man, infection of man from animals by association, inoculation, feeding on meat and milk; milk hygiene and meat hygiene, in connexion with the latter the guiding principles and rules by which the meat inspector should be governed in adjudging the carcasses of animals infected with tuberculosis.

We have here food for many and interesting debates and from the distinguished men from various countries whose names appear on the list of those who have promised to attend and to take part in the discussions the outcome of this congress should be at least as suggestive as that of any previous congress and those who are attending as delegates from this country should have a profitable, though probably strenuous, three weeks of congress work.

The following names should be added to the list already announced of British delegates attending the International Congress on Tuberculosis at Washington, U.S.A.: Professor S. Delépine, Victoria University of Manchester; Mr. J. Patten Macdougall, C.B., Local Government Board of Scotland; Dr. A. Newsholme, Local Government Board of England; Professor William Osler, the University of Oxford, the Lister Institute of Preventive Medicine, and the King Edward VII. Sanatorium; Mr. T. J. Stafford, F.R.C.S. Irel., Local Government Board of Ireland; and Dr. H. E. Symes-Thompson, the Royal Hospital for Diseases of the Chest, City-road, London, E.C.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Asylum Accommodation.

BOTH the Prestwich and the Chorlton unions are much inconvenienced by the crowded state of the Lancashire asylums. The former have charge just now of five certified lunatics for whom no accommodation can be found, and they have been obliged from time to time to send cases to Middlesbrough, where the charges are much higher than in Lancashire. Provision for increased accommodation is being made, but it seems to take a very long time, and one of the board expressed the opinion that if so disposed the asylum authorities could move much more quickly than they were doing. The Lancashire Asylums Board has decided to charge contributing Poor-law guardians 7*d.* a week more per head than hitherto for the maintenance of their lunatics, and at a meeting of the Chorlton board it was stated that this will mean an addition of £1400 a year to the rates. Although this inconvenience is very real, it is, however, rather alarming to think of the very great extension of costly buildings that is being made for lunatics. At Whalley an asylum is being built to accommodate 2000 patients and an extension is proposed at Whittingham for 700 patients.

Seizure of Damaged Food.

To show the valuable part played by the Manchester port sanitary authority in protecting the people from food unfit for use, it is only necessary to refer to the meeting that took place on Sept. 7th. The report stated that the amount of "foodstuffs" (not an agreeable term and one smacking of foreign origin) seized and condemned at the Foreign Animals' Wharf and the Docks during the last month amounted to nearly 270 tons. It must be said, however, that 264 tons consisted of damaged barley taken from a ship that had gone ashore. This barley was afterwards converted into food for cattle instead of malt for brewing. What effect it has had on the cattle has not been stated.

Overlying: Four in a Bed.

An inquest was held at Colne yesterday touching the death of an infant three months old which shows some unusual features and undesirable overcrowding. The mother said that she was 19, and had had three children, the two still alive being aged three years and 18 months. The eldest child and its grandfather slept in the attic, the father and the second child at the bottom of a bed in another room, while the mother and the baby slept at the top of the same bed. She fed the child at 12.30, then slept till 7.45, when she was roused by the elder baby kissing the younger and noticed that the latter was cold, indeed dead. Dr. A. B. Ritchie, the police surgeon, who had made a post-mortem examination, said that the child had died from suffocation through being surrounded by blankets. The youth of the mother is noticeable. The father seems to have been in work as a fork finisher, so that there was no extreme poverty. The mother said that she was a teetotaller and that her husband was a steady man and had had no drink on the Saturday night. The coroner said it was to be hoped that the Government "would find time to get passed into law the Bill now before Parliament which made it an offence for a child to be found dead in bed with its parents." This hope will be echoed by those who know much of the large infant mortality due to the practice of parents having infants in bed with them.

Medical Bequests.

Mrs. Jane Churton of Chester has left £2000 to the Royal Albert Asylum, Lancaster, and the same amount to the Chester General Infirmary, together with an additional sum of £2400 to the latter institution to endow two beds. She also left £1000 to the Children's Convalescent Home, West Kirby, and £500 to the Convalescent Home, Parkgate. Her medical attendant receives a legacy of £1000. There were many other bequests to charities, religious purposes, and legatees.

Sovereigns for Ashton Babies.

Since Mr. Broadbent set the example at Huddersfield the rewarding (or the bribing) of mothers if they keep their babies alive over the first twelve months has been followed in some few cases. In Ashton-under-Lyne the mayor, Colonel J. W. Pollitt, offered to give £100 for distribution among the parents of children born after a certain date on such children attaining the age of one year, and the offer was accepted by the council. A conference has been held between the sanitary committee of the corporation and the Ladies' Health Society and it was decided to appoint another health visitor in order that the work might be properly carried out. The visitors are to report to, and to be under the control of, the medical officer of health, Dr. J. W. Talent, and he is to be required to attend the meetings of the Health Society. It is probable that these doles, coupled with the increase of sanitary effort on the part of the local authorities and supplemented by the self-denying help given by societies of benevolent ladies, will lead to the spread of knowledge among the mothers and, let us hope, to an increased sense of parental responsibility. It is, however, an uncomfortable reflection that a dole of £1 should in some cases be required to call forth the sense of responsibility and the affection which ought to be a natural instinct with human mothers.

Tuberculosis in Cattle.

Tuberculosis in cattle is not only dangerous to the health of the community but may lead to financial loss on the part of the public. A largely attended meeting of the Lancashire Farmers' Association was held just lately at Preston, which pledged itself to use every effort to put in force the prices recommended by the milk committee for the Michaelmas milk contracts. It need not be said that they are higher than the old ones. Another matter was also the subject of much discussion—namely, who must pay if an animal bought by a butcher which has been guaranteed as free from disease and fit for human food is found to be diseased. After some vigorous speeches the following motion was unanimously agreed to:—

That while sympathising with butchers in the hardships inflicted on them by the confiscation of tuberculous carcasses *bonâ fide* bought at a fair market price and apparently healthy, the proposal to throw the whole responsibility on the farmers was unfair, and that farmers, butchers, and auctioneers, should combine to enforce their demand for a reasonable scheme of compensation from public funds when carcasses that have shown no previous symptoms of being diseased are condemned in the public interest.

If all possible care has been taken by the farmer to ascertain whether the animal sold is healthy or not it does seem hard if he has to bear all the loss. This, of course, is quite a different case from that of the "slink butcher," whose business it is to deal in diseased meat, sometimes, no doubt, in collusion with a dishonest farmer.

Sept. 15th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

Changes in the Staff of the Royal Victoria Infirmary.

Dr. George Redmayne Murray has been elected an honorary consulting physician on resigning his position as physician to the infirmary. Dr. Murray leaves Newcastle this week to take up his duties as Professor of Systematic Medicine in the Victoria University of Manchester and physician to the Manchester Royal Infirmary. Dr. W. E. Hume has been elected a physician to the infirmary. Dr. Hume was senior house physician to the Royal Infirmary until 1907, and was elected an honorary assistant physician at the beginning of the present year.

Presentation and Dinner to Dr. Murray.

Dr. Murray was entertained to dinner on Sept. 3rd by his colleagues at the College of Medicine and Royal Victoria Infirmary on the occasion of his approaching departure for Manchester in order that they might offer him their congratulations and wish him success in his new sphere of work. Sir G. H. Philipson was in the chair, and in proposing Dr. Murray's health congratulated him very heartily on his appointments, and assured him that the good wishes of all present, and of many others besides his immediate colleagues, would accompany him to Manchester, where they hoped he would spend many useful and happy years. Dr. David Drummond, in supporting Sir G. H. Philipson, referred to the loss which he and his colleagues would sustain by Dr. Murray leaving Newcastle, but at the same time they could not but feel gratified that one of their number had been invited to accept the important positions which Dr. Murray was about to occupy. He offered Dr. Murray the congratulations and good wishes of himself and his colleagues and begged his acceptance of the piece of silver which he had been asked to present to him as a memento of those years of his professional life which he had spent in Newcastle. Dr. Murray, in reply, said that while he appreciated to the full the goodwill and kindliness of feeling on the part of his colleagues which had prompted that meeting, he nevertheless found it exceedingly difficult to give expression to the thoughts and feelings of which he was at the moment the subject. It was with no light heart that he was leaving the town where he was born and with which he had so many close associations. He recognised the honour which had been done him when he received the invitation to go to Manchester, but it was only after very anxious thought and consultation with his professional friends that he had decided that he ought to sacrifice his personal inclinations to what he thought was, in the circumstances, a duty. He was, however, very glad indeed that he would not altogether sever his professional connexion with Newcastle. The position of consulting physician which the infirmary had done him the honour to confer upon him and the honorary membership of the College which had been offered him would, he believed, give him the chance, which he was most anxious to take, of retaining a real and active interest in the work of the medical world of Newcastle. For many reasons he was sorry that he was leaving Newcastle at the present time. Changes were taking place, or were about to take place, which were bound to have a most important influence on the future of medical education in Newcastle. The present was the great opportunity of the provincial schools. London, for well-known reasons, had been steadily ceasing to attract students for the past ten years. Decentralisation of medical education was taking place, and that very rapidly indeed. Several of the larger provincial cities and towns had realised this and had made full use of the opportunity. He hoped that Newcastle would not fail to follow the lead of other provincial schools and provide facilities such as they had provided. The present was the opportunity and one which it was vitally important should not be lost. Many problems were involved, but of one, he thought, he was competent to speak. He wished very earnestly to impress upon the authorities of the College and of the infirmary the necessity for a closer union between the two institutions, a union which was equally necessary in the interests of the students, the patients, and of medical research. He wished them especially to realise the necessity for bringing the departments of pathology and bacteriology in the College and infirmary each under the control of one man respectively. The present position was anomalous. The student's opportunities were wasted through no fault of the latter. The patients could not derive the benefit which they should from the present-day knowledge of pathology so long as things remained as they were. It should not be a difficult matter, seeing that many members of the staff of the College held positions on the staff of the infirmary, and *vice versâ*, to bring about a better understanding. In his opinion this was the moment for arriving at that understanding, and he hoped that those holding positions in the profession which would enable them to carry through such a reorganisation would approach the problem with the single object of the advancement of medical education in Newcastle.

Sept. 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Edinburgh and Leith Medical Practitioners' Association.

THIS association of registered medical practitioners residing in Edinburgh, Leith, and district has been founded with the object of promoting the interests of the medical profession by serving as a medium of friendly communication between members. The annual subscription is for the present fixed at the low sum of 5*s*. There will be an inaugural dinner on Oct. 16th, on which date the first general meeting will be held, when a debate of special interest to general practitioners will be arranged. The following have accepted office in the new association, which promises to be a practical success:—Honorary Presidents: Dr. J. O. Affleck, Dr. Joseph Bell, Dr. T. S. Clouston, Sir Henry Littlejohn, and Sir A. R. Simpson. President: Dr. William Nicol Elder. Vice-Presidents: Dr. T. Monck Burn-Murdoch, Dr. James Carmichael, Dr. Alexander James, Dr. James Ritchie, and Dr. T. R. Ronaldson. Honorary treasurer: Dr. H. Martyn-Clark. Honorary secretaries: Dr. John M. Bowie (46, Grange-road, Edinburgh) and Dr. John Orr. These officers will be assisted by a large committee representing different localities.

Sanitary Congress at Peebles.

The Sanitary Association of Scotland last week held its annual congress at Peebles. Various subjects were discussed, the most important being the Milk-supply of the Country, with Special Reference to Prospective Legislation. This discussion was introduced by Dr. G. Matheson Cullen, convener of the public health committee, Edinburgh, who treated the subject from the point of view of the local authority in a burgh, while Dr. A. Campbell Munro, medical officer of Renfrewshire, gave the county local authority's view,

and Mr. John Findlay, farmer, Baillieston, dealt with the dairy farmers' interest in the subject. At the close of the discussion a resolution was passed to the effect that the association desired respectfully to bring to the notice of the Secretary for Scotland the urgent necessity for the introduction of a measure dealing with the question of milk-supplies and dairies. Another important discussion, introduced by Dr. T. F. S. Caverhill, medical officer of Haddingtonshire, dealt with the problem of how to isolate and treat cases of pulmonary phthisis so as to limit its spread, and how to do this in the most economical manner. Dr. J. C. McVail, medical officer of Stirlingshire, also gave an instructive lecture on Some Episodes in the History of Preventive Medicine.

Ventilation of Schoolrooms.

It is a curious fact that there are Board of Trade regulations anent the ventilation of factories and workshops, and yet there are no definite regulations, beyond fixing the number of cubic feet per scholar in a room, about ventilation of schoolrooms. The only way in which a check can be administered where the air is bad is by an adverse report from the official inspector, who, of course, cannot know all that is wrong, as he visits a school only about twice a year. Glasgow school board has now turned its attention seriously to the question of ventilation and the older schools are being thoroughly tested and altered, if necessary, on the lines of the Board of Trade's regulations for factories and workshops. A test-sheet is filled up for every schoolroom giving information regarding air-tests, temperature, &c. On these details are based the arrangements for any alterations necessary.

Nairn Town and County Hospital: Handsome Donation.

The annual general meeting of the supporters of the Nairn Town and County Hospital was held on Sept. 3rd when the chairman intimated the receipt by the directors of £500 from an anonymous donor. The donor wished it stated that he had specially in his mind the desirability of increasing the endowment fund of the hospital, and while the income of the investment now made would be at the disposal of the governing body for the general purposes of the hospital, he wished it to be understood that the capital would be held unbroken as a perpetual addition to the endowment fund, and that it would be agreeable to the donor if a minute was passed to the effect that the gift was accepted under that condition. On the motion of the chairman it was unanimously resolved to accept the gift on the condition laid down by the donor and to record the gratitude of the directors and subscribers for the very handsome gift.

Beaufort Castle Bazaar.

The two days' bazaar which was held at Beaufort in the end of last month in aid of the funds for the endowment of the Inverness-shire Sanatorium for Phthisis proved a great success, the total amount realised being close on £4000. The Hon. Margaret Fraser, who promoted the bazaar, received a donation from the Prince of Wales.

Sept. 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The British Association.

THE British Association has left behind it in Dublin pleasant impressions and recollections of its visit. The inherited *mens medica* of the President was very patent to all medical members of the audience who listened to the opening address and who applauded the reference in his last speech to Irish genius "in their own noble profession, to Graves and Stokes, men who by the brilliancy of their intellectual activity and their innate genius had carved out for themselves an imperishable reputation, and to-day their memories were as warm and as green in the bosom of the nation as at any time in their history—loved, cherished, and respected over the wide world." It is interesting to note that the literary, scientific, and professional distinction of these great physicians still marks the staff of their hospital, the Meath Hospital, for Sir John William Moore and Sir Lambert Hepenstal Ormsby were both contributors to the proceedings of the Association, the former reading an enlightening paper on the ever present subject of our troublesome Irish climate, while the latter in a luminous and happily phrased speech threw a passing light on some abstruse questions of psychology.

The Deportation of Lunatics.

The medical superintendent of the Richmond District Asylum, Mr. John O'Conor Donelan, has stated that among the patients recently admitted were three who had been deported from Scotland under the Poor-law (Scotland) Act, 1898, Section 6. Of these cases one had been no less than 14 years in Scotland prior to being returned here. He wished to draw the special attention of the board to this case as an instance of the hardship to the ratepayers of that district in having patients such as these sent back, while they in Ireland were obliged to retain all patients committed regardless of their nationality. The chairman said the report referred to a most scandalous state of things, and that an effort should be made to have it remedied in the Bill which is to be brought before Parliament in January next. The inquiry of a member elicited the fact that there were many patients at present in the institution who had been received in similar circumstances. The comment might almost be expected that: "England and Scotland get the profit of the Irish labourer's work, and as soon as he becomes mentally or physically incapable he is forthwith deported to a workhouse or a lunatic asylum in Ireland, the country having nothing of the fruits of his toil." The quotation is from a Nationalist source, but medical administrators, whatever their politics, will probably endorse it.

The Forster Green Hospital, Belfast.

This hospital, after the completion of building operations consequent on its enlargement, will be reopened on Oct. 1st for the reception of patients. The number of beds has been increased from 38 to 73 and the medical staff has also been increased. The scope of the out-patient department is also to be enlarged, a medical officer and nurse having been appointed whose duties it will be to keep in touch with the patients after they have been discharged from the hospital and to render them such advice and assistance as may be necessary to insure that the benefits derived from the course of sanatorium treatment may not be lost.

Cold Baths for Tramps.

At the weekly meeting of the Ballymoney board of guardians held on Sept. 10th a letter was read from the Local Government Board with reference to the use of the cold-jet water bath in the probationary ward, which was successfully adopted to deter tramps from applying for admission. It appears that since the introduction of this sanitary appliance the number of tramps coming to the Ballymoney workhouse has fallen from 80 per week to 10. The Local Government Board point out that tepid or warm water should be used for the proper cleansing of persons admitted to the workhouse but that before a cold bath was given to any person in the casual or probationary ward of the workhouse a certificate in writing that the recipient was a suitable case for such treatment should be obtained from the medical officer of the workhouse. It would be the duty of the master to obtain this certificate in every case. A guardian said this would mean an increase of the medical officer's salary, but that he would rather give him £30 per year more than allow the tramps the use of the workhouse. It was decided to call a special meeting of the guardians to discuss the matter.

The Babies' Club, Belfast.

At an inquest held in Belfast on Sept. 9th in reference to the death of an infant, aged five months, from convulsions, it appeared that the child, who had been very delicate, had been kept alive by the gift of a pint of good milk every day from the Ballymacarrett branch of the Babies' Club since July. The coroner referred to this practical form of charity and said that the Babies' Club had shown them how much could be done to save life amongst infants. There were 71 children on the books of this branch and this was the first death. The jury in their verdict added a rider expressive of their high appreciation of the service rendered to the community by the institution known as the Babies' Club. It may be added that the various babies' clubs in Belfast are being worked voluntarily by the infantile committee of the Belfast branch of the Women's National Health Association of Ireland.

The Public Health of Cork.

The annual report of the medical superintendent officer of health in Cork suggests that the efforts of the guardians of the public health to procure a food-supply for the people are not always adequately supported by the magistrates. During the year 7012½ pounds of beef, 2819½ pounds of pork, 59 pounds of veal, 403½ pounds of mutton, 3635½ pounds of fish, 77 pounds of fruit, 95 pounds of fowl, and 116 pounds of onions were seized and destroyed as unfit for human food. Arising out of these seizures there were 18 prosecutions, but the penalties aggregated only £3 5*s.* 6*d.* This report also shows the distressful prominence of the tenement question in Cork as well as in Dublin. Of the 12,480 houses in the city of Cork 1800 are of the tenement class, and these abodes shelter 23,000 persons—nearly one-third of the whole population. The medical officer of health states that many of these dwellings are old and decayed and unfit for human habitation. In the same connexion, too, the report states that: "There can be no doubt that overcrowding exists in Cork to a very large extent, consequent on insufficient house accommodation for the poorer classes, where the density of the population is about 33·6 persons to each acre." This is one of the very many cases in which a boon would be conferred on the community by the passing into law of the Housing Bill.

Tipperary and the Tuberculosis Bill.

At a meeting of the South Tipperary county council last week Mr. John Cullinan, M.P., drew attention to the fact that "the Bill provided for the building of sanatoria, appointment of doctors, nurses, veterinary surgeons, &c., the expense of all which was to come out of the pockets of Irish ratepayers. It was an Imperial question and one that could not be dealt with except out of Imperial funds." The chairman (Mr. J. F. O'Ryan) agreed that it could not be adequately handled except by Imperial funds, and after some discussion a resolution was passed declaring that, while approving of any practical steps which could be taken to provide against or check the spread of tuberculosis, which they considered a national calamity brought about by the want of proper attention by successive Governments to the needs of the poor people, the council protested most emphatically against the financial provisions of the Tuberculosis Bill now before Parliament, which would place the entire expense of sanatoriums, &c., on already overburdened ratepayers, and the council claimed that it was the duty of the Treasury to finance any scheme dealing with the spread of the disease.

Sept. 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Ritual Circumcision and Medical Men.

THE recent Separation Law which divorced religion from the State in France and which has abolished the stipends paid by the Government to the ministers of various religions has been fraught with a number of unexpected results, one of which concerns the medical profession. It is common knowledge that amongst the Jews circumcision is practised by a special official called a *mohel*. Under the old *régime* the State recognised this special case in consideration of the ritual aspect of the operation, and by a relaxation of the French law forbidding the performance of operations by unqualified persons it was laid down that circumcisions performed by a non-medical *mohel* should be permitted without being considered to constitute illegal medical practice. But since the new law under which the State takes no official cognisance of the existence of any religion or of any religious ceremonial in France the *mohelim* have come to be regarded as illegal practitioners who perform operations without the title of doctor of medicine and who consequently lay themselves open to prosecution. The Jewish authorities are quite content to agree henceforward only to employ doctors of medicine as *mohelim*, as is the almost universal custom in well-to-do families. But they desire not to oust from their occupation the old *mohelim* who were recognised before the present law. It is now proposed that these men should still be allowed to circumcise until they have all dropped out, conditional upon the presence of a doctor of medicine at the operation and at subsequent dressings.

The New Edition of the Codex.

The *Codex Medicamentarius* is the French Pharmacopœia and the possession of a copy of it is obligatory upon all French pharmacists. They are obliged to keep in stock all the drugs in the official list. The book further gives the composition and official methods of preparation of all such drugs and compounds and includes a discretionary list of such new remedies as have been proved of service. As therapeutics is a progressive science, from time to time the Codex is revised completely and a fresh edition is published under the direction of a special commission which advises the Minister. The original Codex appeared in 1818, the second edition in 1837, the third in 1867, the fourth in 1884, and the fifth in July last, 24 years after the preceding issue. It shows a large number of alterations which are chiefly directed to the simplification of many preparations, such as the tinctures of iron and opium, in the manner recommended by the recent International Convention that considered the maximum doses of potent drugs. A crowd of old preparations which have fallen into disuse and which had become stereotyped in former editions have been swept away in this one. On the other hand, a certain number of new drugs are included, amongst which are adrenalin, theobromine, tuberculin, and other agents employed in opsonic, vaccine, and serum therapy.

Gynæcological Operations in the Treatment of Neuroses.

At the Eighteenth Congress of French Alienists and Neurologists which met at Dijon from August 3rd to 10th this question was discussed. M. Schuyder began by maintaining that gynæcological affections do not cause psycho-neuroses but that in certain cases the functions of the female pelvic organs, whether there be any structural change or not, by reason of the nervous instability of the patient, may be accompanied by subjective symptoms giving rise to irrational ideas which end in hypochondria. In such cases the failure of rational psychotherapy is sufficient justification for surgical interference.

A Monument to Professor Cornil.

The compatriots and friends of the late Professor Cornil, whose career I laid before your readers at the time of his death last spring, have recently appointed a committee for erecting a monument to his memory at Cusset, his birthplace, a town not far from Vichy in the department of the Allier. A public subscription list has been opened under the auspices of the committee, which includes the President of the Republic, a former president, M. Loubet, the Dean of the Faculty of Medicine, and numerous professors and medical men.

Medical Attendance at the Paris Theatres.

The prefect of police has just issued a new order dealing with theatres, cafés, concert-rooms, and other public places of amusement. After some new regulations dealing with the question of first aid, lighting, and sanitary matters, he modifies the old regulations by which it was obligatory upon all places of entertainment having a seating accommodation of over 800 to provide the services of a medical man. Moreover, the medical man is no longer obliged to be at the theatre as formerly for a quarter of an hour before and for the same time after any performance.

The Adulteration of Foodstuffs.

The Inspection Department of the town of Paris has, during the second quarter of 1908, dealt with 3015 samples, which have led to 1148 prosecutions. Of this number analysis established the fact of adulteration in 48 per cent. of the samples of milk officially taken, in 31 per cent. of the samples of wine, and in 26 per cent. of the samples of other foodstuffs, being 35 per cent. of the total number of samples officially taken. These do not include samples taken for the purpose of control or at the instance of a judge (*commissions rogatoires*).

Sept. 14th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Hydrophobia.

FOR Italian physicians this is indeed a formidable accompaniment of the hot season when the *rabies canina* is prevalent enough to give it a double right to the name of

"dog-days." This year the admissions to the "Istituti Antirabbici," where the Pasteur treatment is practised, have been markedly in excess of those of previous years—Milan alone, for the week ending August 1st, having had as many as 40 cases subjected to the cure; in other words, nearly six a day! Farther afield, at Tagliuno, in the province of Bergamo, a hydrophobic dog bit another which, on the development of the malady, succeeded in biting as many as 15 little village children in a few hours. It is strenuously denied by some pathologists that the human subject, affected by hydrophobia, has the "biting impulse" strong upon him. Yet from such a quarter bites have been received; indeed, quite lately in the province of Brescia Dr. Filingardi was bitten by a hydrophobic girl of 15 and hastened to undergo the treatment at the Milanese Institute, from which he came out "cured," as also did Dr. Giuseppe Merlo who had been bitten in the province of Pavia. Rabies is the most communicable of maladies and no Italian physician believes in its developing "spontaneously" in the dog—by the want of water or by privation of sexual coitus, for instance. There can be no case of "infezione rabbica" without an antecedent "lesione infettante" (infecting lesion), such as the bite of another "animale rabbioso" or the contact of a wound or abraded surface with the virus in question. To ask for a "primary case" of rabies seems as absurd as to ask for a primary case of small-pox or measles! As to the virus itself, Negri, in 1903, after a study of its specific agent or special micro-organism, found this in the family of the protozoa. The poison, conveyed in the saliva of the biting animal and through the victim's central nervous system, settles (according to the same pathologist) in the "bulbus rachideus" and ultimately explodes in symptoms having a family resemblance to tetanus. The notion that a hydrophobic animal shows at once as a first sign of its malady a repugnance to water is no longer tenable, but there is something pathognomonic in its demeanour and behaviour which ought, in the case of the domestic dog in particular, to put its owner on his guard. The first days of its illness are, indeed, the most dangerous, for seeing it dejected and suffering its friends are prone to fondle and caress it, and in return to get a bite or even a lick of its tongue over a scratch on the face or finger and so contract the disease. Perroncito of Turin remarks that dogs affected with "rabbia muta"—that is, presenting no sign of "rabbia furiosa"—can impart the poison to the human subject, and cites the case of a carabineer who died from hydrophobia from the dog's licking a wound on his hand. The same expert confirms the finding of Viana that the virus of rabies may be transmitted by a particular insect—a finding arrived at in the case of a dog, and rendered, he thinks, the more certain if, as Negri, Volpino, and Bertarelli maintain, the determinant of the virus is a protozoon, the very minute spores of which may well be transported by an insect. It is not to be supposed that every bite of a hydrophobic animal must necessarily produce hydrophobia. The saliva may no longer contain, after a series of bites, the fatal micro-organism. Of the 15 village children bitten at Tagliuno, perhaps not more than three were actually infected with the virus; but all were sent for treatment to the Pasteur Institute and all came out certified as "cured." This is a source of fallacy in "antirabic" statistics which has often been pointed out by Italian physicians. Nevertheless, the person bitten, old or young, by a hydrophobic animal cannot, if only for precaution, repair too soon to the Pasteur Institute. A treatment which, in Italy alone, has reduced the mortality from 80 per cent. to not more than 3 or even 2 per cent. has a record in its favour much too sound to justify the neglect of it in cases which are even hypothetical only.

The "Feste Torricelliane."

Those of the profession who can take their holiday in October and on the Italian side of the "Watershed" might do worse than spend a few days of it in Florence at the sittings of the Second Meeting of the Italian Association for the Promotion of Science and immediately thereafter accompany the members to Faenza where, on the 24th and 25th of the month, the third centenary of the birth of the inventor of the barometer and founder of the science of hydraulics will be celebrated with special honour. A programme of the proceedings lies before me in which every precaution has been taken to minimise the chances of disappointment or failure seemingly inseparable from celebrations so wide in their reference and so complex in their details. Evangelista Torricelli, indeed, appeals to so many interests, mathematical, physical, hygienic, and even medical, that an "Esposizione" of his "armamentarium scientificum" has had to be brought together, classified, and put conveniently in evidence, to illustrate or supplement the exposition of his life-work which will tax the resources of the orators intrusted with that duty. Trained, while yet the "dew of his youth" was upon him, by the Jesuits of Faenza, many of them masters in the higher literature and in the purer of the sciences, he next came under the spell of Galileo, whose treatise "De Motu" he read to such purpose that he extended its principles to special agents, and in his tractate on the parabolic motion of projectiles he won the esteem and affection of the teacher and so impressed the contemporary world with his genius as to evoke the exclamation: "En revirescit Galilaeus alter." Ferdinand II. dei Medici on Galileo's death made the brilliant young Faventine professor of mathematics in Florence where his grandest achievements were henceforth to see the light. Martini, in his monograph on Torricelli, written expressly for the commemoration, has set these forth in luminous order, dwelling on his "perfezionamento" of the field-glass, his "microscopio rudimentale" made of pellucid "perline di vetro" (tiny pearls of glass), by means of which, primitive as it was, he studied crystallised bodies and laid the foundations of crystallography. In hydraulics he is, *consensu omnium*, the pioneer, the practical result of his operations in those days being the reclamation to fertility of the Val di Chiana (Valley of the Clanis). The barometer, the hygrometer, the aerometer—all these he initiated for posterity to use and to carry to perfection; while in meteorology his theory of the wind, first given to the world before an audience of the Accademia della Crusca, was adopted and developed by Benjamin Franklin. His quadrature of the cycloid, worked out on the lines laid down by Roberval, his quadrature of the parabola, and his essays on the properties of the spiral curve and on centres of gravity, give him rank among the "Dii Majorum Gentium" of mathematics. Martini claims for him an anticipation of the clinical thermometer, effected at the instance of the Grand Duke Ferdinand and utilised to determine fever temperatures in the human subject. All these contributions to science and to the welfare of humanity will be in evidence at the "Esposizione" after previous exposition by orators selected *ad hoc*, and cannot but attract to the commemoration many others besides the compatriots who are so justifiably proud of the man and of his work.

Death of Professor Paolo Emilio Cappello.

This able and accomplished Roman surgeon died on Sept. 2nd after 48 hours of acute suffering from diphtheritic throat, the disease having been contracted when on clinical duty. Professor Cappello was director of the great Hospital of the Consolazione and of the "Ospedale del Bambin Gesù." A brilliant and singularly successful operator, he was called in consultation far beyond the immediate scene of his practice, and leaves many friends, professional and lay, to mourn a loss as heavy as it was unexpected and premature.

Sept. 5th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

An Accident Hospital Ward.

SINCE the death of Professor von Mosetig just over a year ago the 100 beds which were under his charge at the hospital have been vacant, as it could not be decided what to do with them. The suggestion that the ward should be converted into an accident hospital, a suggestion supported by the clinical teachers, has been fought by "red tape" with success up to now, but as the affair stands at present all points to the fact that on Oct. 1st the 100 beds will actually become a source of very useful instruction for the students of surgery. The Ministry of Education has arranged with the chiefs of the two surgical clinics (Professor von Eiselsberg and Professor Hochenegg) for the teaching of the surgery of accidents, to be given in combination with the military medical staff, which will also send its accident cases into this ward, whilst every officer of the medical corps will have to

serve a term of at least three weeks every other year for six years. The students of the clinics, on the other hand, will have to serve a term of 19 days in this ward in groups of from six to eight, whilst graduates will also be enabled to profit by the new arrangement. The ambulance corps and the police have received instructions to send accident cases happening within a certain radius to this ward. Thus the clinic will offer abundant accident material for teaching purposes. Of late years there has been constant complaint that the clinics were lacking in material of such kind, and this condition of affairs seriously interfered with the teaching side of the clinics. In 1902 only 24 cases of cerebral concussion, 76 cases of bullet wounds, 18 stab wounds, and 12 cases of extensive burns were taken to the clinical wards, whilst the majority of accidental injuries were distributed amongst the suburban hospitals and thus lost for teaching purposes. The addition of about 60 beds (the remainder of 40 must be kept for military purposes and accidents requiring internal treatment only) will not only relieve pressure, but will also do away with the difficulty in teaching an important part of surgery. The new arrangement may be modified a little in some points but its adoption is already sure.

What Constitutes a Specialist?

The question of bestowing the title of *Specialarzt* (specialist) for a certain branch of medical art upon a duly qualified man has again been brought to the front by the Vienna Medical Council, which asked the medical councils of the other Austrian districts for their opinion on this subject. Four years ago a similar movement sprang up but it did not gain much publicity. At present the increase of specialists seriously handicaps the general practitioner. Some men style themselves specialists in gynæcology and diseases of children, thus taking away from the all-round man a large portion of his practice, without ever having had any hospital practice. On the other side, actual specialisation has so far progressed in our country that in Vienna there are, amongst 3000 practitioners, no fewer than 800 specialists; of these 280 are either professors or *privatdocenten*. Suggestions have therefore been made to stop for the future the wholesale increase of specialists of the self-styled type. A special study of at least three years, either under a specialist of recognised reputation or in the special ward of a hospital or a polyclinic, will be indispensable. A number of original scientific publications will be required, besides giving proof of actual work in the chosen branch. Furthermore, a medical man will not be recognised as a specialist in more than one branch of medicine, except, of course, in such subjects as may be considered in connexion, for instance, ear, nose, and throat; or skin and sexual disease.

A Case of Early Ossification of the Coronary Suture of the Head.

Dr. Algyogyi at a recent meeting of the Medical Society of Vienna showed a boy, aged 15 years, subject to epileptic seizures. The history of the patient was not unusual except that his mother mentioned that she noticed an abnormal configuration of the boy's head at the time of his birth. The head was very high, the fronto-occipital diameter, as well as the bi-temporal one, being very small compared with the mentoparietal diameter. Since the age of ten years the boy noticed cramps of the adductory type in his fingers of both hands; a few months ago he suddenly had an epileptic seizure lasting five minutes and since then such fits have occurred repeatedly. The examination of the patient showed besides the abnormal shape of the head the presence of asymmetric development of the skull, the right side being less developed. The teeth were of the Hutchinson type; there was marked exophthalmos of the left eye, without nystagmus. An x ray photograph revealed a shortening and narrowing of the anterior cerebral fossa, an increased convexity of the middle fossa, and very marked "impressiones digitatæ," proving the existence of increased intra-cerebral pressure in combination with many rough spots on the inner aspect of the skull. Cases of this early ossification of the sutures of the skull have only been recorded comparatively lately. Sometimes the ossification takes place before birth, sometimes much later. The etiology of the abnormal ossification is not yet clear. Some writers consider syphilis or rachitis responsible for it, others point to meningitis or pachymeningitis, whilst a great many other authors believe that an intra-uterine meningitis with subsequent chronic hydrocephalus accounts for the condition. In several cases trephining of the skull was followed by improvement of the symptoms; this pressure-lowering operation is also contemplated for the patient mentioned above.

The New Clinics in Vienna.

The erection of three new clinics, in addition to the two gynæcological pavilions already finished, has been begun. The clinics will comprise von Noorden's internal clinic, a laryngological ward, and a children's ward. Von Noorden's clinic will have 100 beds, with an isolation pavilion, clinical teaching halls, a lecture hall seating 236 students, a special dietetic kitchen, and laboratories for experiments on metabolism. The Chiari clinic for diseases of the nose and throat will have 48 beds with a pavilion for seven diphtheria cases; and the third clinic, under Professor von Escherich, will have 44 beds for children, a pavilion for 10 infants, and a station for 12 "boxes" or "couveuses" for premature infants. The infection wards consist of a pavilion with 21 diphtheria beds and another pavilion with 24 scarlet fever beds. The lecture hall of this clinic will hold 200 students, against 100 seats in the Chiari lecture hall. A good operating theatre will be attached to both the latter clinics. The exterior of the building will be finished in 1909, whilst the completion of the interior has been fixed for the summer of 1910; the cost of the erection, together with all apparatus and fixtures, has been estimated at £200,000. The plans are in accordance with the desires of the professors, and all the latest innovations and the best material, together with the best recognised equipment, have been allowed for by the committee. The fittings will cost about £60,000. Care has been taken to provide for sufficient rooms for students to spend at least twice a year a term of a fortnight as junior assistants, so as to come in close contact with patients and diseases. Hitherto this most important part of a medical curriculum was rather badly handicapped by sheer want of accommodation.

Sept. 12th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Military X Ray Equipment in India.

IN 1904 Sir Thomas Gallwey, K.C.M.G., C.B., principal medical officer His Majesty's forces in India, submitted a carefully drawn up scheme for the consideration of the Government of India which comprised the provision of 15 complete sets of x ray equipment for India for use in peace and war. The apparatus selected consisted of portable outfits for use on field service. One complete set was obtained from London at once and subjected to severe and prolonged tests on field service conditions, consisting of marching it loaded on mules for long distances over rough bridle paths, both in the plains and the hills, and, finally, by conveying the complete component parts from Dehra Dun to Simla, a distance of about 100 miles, over mountainous ranges by very rough tracks. On arrival at Simla in November, 1904, the entire apparatus was set up for a working trial and was inspected by a representative gathering at army headquarters, and while in working order it was reported on by a committee of medical officers consisting of Major H. W. H. Elliott, D.S.O., I.M.S., Captain E. Blake Knox, R.A.M.C., and Captain A. E. Walter, I.M.S. This committee expressed its opinion that the outfit was suitable in every way for use in peace and war. Lord Kitchener concurred in the finding of this committee and considered that the portable outfit should be used with general hospitals and hospital ships as well as with peace charges in order to accustom medical officers to its use in peace time and to avoid duplication of equipment. Another advantage of the portable apparatus was that it could be sent when necessary to out-stations away from the railway in which circumstances portability would be a great desideratum. The next step was the formation of a headquarters x ray institute at Dehra Dun, and Captain Walter was appointed superintendent and was given a suitable staff. This institute, besides carrying out x ray work for the civil Government and also for the military, became a training school for medical officers and subordinates (assistant surgeons and hospital assistants) for all branches of the medical services in India. It also undertook special forms of

treatment of disease, lupus, &c., with the Finsen light and ultra-violet rays, and had workshops attached for major repairs and renewals for x ray equipment generally. In 1905 sanction was accorded by the Government of India to the provision of 15 complete sets of portable x ray equipment, one complete set of each being located at the headquarter stations of each of the ten divisions of the army (including Burma), and five spare sets were allotted to the headquarters x ray institute, Dehra Dun, to meet emergencies, to replace damaged sets, and to meet additional requirements of divisions and needs of independent brigades. The divisional sets are now in charge of specially qualified medical officers of the army (Royal Army Medical Corps or Indian Medical Service), each of whom receives an extra pay allowance (Rs. 60 = £4 per mensem). These officers are assisted by a medical subordinate in subcharge of the outfit who draws Rs. 30 = £2, or Rs. 15 = £1, per mensem staff pay, according to their grade status, assistant surgeon or hospital assistant, as the case may be. These subordinates are required to hold specialist's certificates awarded after a theoretical and practical course of instructions at the x ray institute, Dehra Dun. The divisional x ray section staff and portable equipment would proceed on active service with the division to which it belonged in the event of mobilisation. As regards war requirements it was also proposed that in addition to the x ray specialist with each general hospital, irrespective of size, there should be one specialist officer for each hospital ship and also one for each x ray section (its officer commanding), instead of one per field hospital as was originally intended. The outfit of each x ray section is packed for travelling purposes in rattan cane panniers covered with waterproof canvas suitable for mule transport. Owing to its fragility and costliness these panniers when employed on field service are carried by specially steady mules each with *one* muleteer. These mules (unlike other medical transport in the army) remain entirely under the control of the officer commanding the field x ray section. The divisional x ray equipment has now been in full working order at the headquarter station hospital of each of the ten divisional areas for some time and has proved an invaluable boon. At Peshawar Station Hospital it has been freely used during the recent frontier expeditions and has done very valuable work connected with such gunshot injuries as occurred amongst both British and native troops of the field force employed.

Medical Registration.

In emphasising the resolution upon the need for a Medical Registration Act in India passed at the last meeting of the Medical Section of the Asiatic Society the Indian medical press remarks upon the supineness of the Indian public in regard to this matter. Yet it is a matter of the greatest importance, as affecting both public and private interests. The general public, however, can hardly be censured for indifference, for it is only recently that any serious or united action has been taken by the profession, the point which then attracted attention being the continued multiplication of self-constituted bodies granting diplomas and licences to practise medicine. These diplomas being colourable imitations of those bestowed by English and Indian Universities had become a serious danger, not only to the profession but also to the public, who have no means of gauging the value of the imposing parchments in the possession of the pupils of these so-called medical schools. There are stated to be no fewer than five such institutions in Calcutta itself. With one exception none of these have adequate hospital or laboratory accommodation and there is no system of outside inspection. Each school grants its own diplomas and men are turned out without either the practical or the clinical experience which the public have a right to demand from those who profess to be fully qualified practitioners according to European standards. Some organising Act such as is now proposed would be a lasting benefit both to the profession and the public, and it is probable that the present agitation will speedily lead to a definite result.

Proposed Waterworks at Puri.

The Bengal Government has recently accorded administrative approval to a detailed scheme for the installation of waterworks at Puri. The scheme is estimated to cost Rs. 3,00,000 in round figures, and towards this the local government has made a grant of Rs. 1,00,000 from provincial revenues. It is understood that the municipality will take a loan of Rs. 50,000 and that another Rs. 25,000 will be contributed from the Lodging House Fund. There will still be a large balance to provide and it is hoped that Indian gentlemen will come forward with subscriptions in aid of the project, more especially in consideration of the reverent regard which every Hindu has for the place as the site of the great Jagannath pilgrimage. Numerous outbreaks of disease at this place, due to a foul water-supply, will be recalled to memory, and many a pious Hindu will, it may be expected, be only too glad to be allowed to assist in establishing a pure water-supply.

Cholera in Madras.

Madras is suffering from a severe outbreak of cholera. On August 3rd there were 22 attacks and 13 deaths; on the 4th there were 20 attacks and 19 deaths.

August 20th.

Obituary.

ROBERT TWENTYMAN LIGHTFOOT, L.R.C.S. EDIN., L.S.A.

Mr. Robert Lightfoot, the well-known and veteran surgeon of Newcastle, became a Licentiate of the Society of Apothecaries of London in the year of Queen Victoria's accession to the throne, having been already entitled to practise four years before that date upon his Scottish diploma. He was born in Waterloo year, and although when he died at Brighton on August 27th last he had reached the great age of 93 he had been in practice in Newcastle until three years ago. He was a native of Carlisle and was educated at Edinburgh, Vienna, Berlin, and Paris. His life snaps a link with a very grim period in the history of medical education, to wit, that of the Burke and Hare murders in Edinburgh. For Mr. Lightfoot was a pupil of John Knox who gained such a pitiable notoriety by buying the bodies of the murderers' victims. Mr. Lightfoot always declared that his famous teacher was ignorant of the source of these "subjects" for dissection. The deceased gentleman was a pupil of whose abilities Knox used to speak very highly and he made him a demonstrator in his school. Mr. Lightfoot started in general practice in Newcastle 70 years ago, and for 67 of them he remained as a practitioner in that town, where he enjoyed widespread popularity and respect, for he was a skilful surgeon and a conscientious medical attendant. He was, moreover, a man of general culture and of wide reading. He was formerly surgeon to the old Asylum for the Blind, now the Victoria School for the Blind. During the last two years he had been in failing health and was resident at Hove. He is survived by his widow who was a daughter of the late Alderman Thomas Bell, and by a son and two daughters. The funeral took place at Newcastle on August 31st, the first portion of the burial service being held in the cathedral; it was attended by the Lord Mayor of Newcastle and the town clerk of the city, representing the city officials; Sir George Hare Philipson, Professor F. Page, and Professor George Murray, representing the medical profession; and a number of personal and professional friends and patients.

We have received from Sir George Hare Philipson the following additional tribute to Dr. Lightfoot's memory:—

"After qualifying as a surgeon, Lightfoot spent some time at the continental schools of medicine at Paris, Berlin, and Vienna. He became familiar with modern languages and throughout his life interested himself with German medical literature. When a student at Edinburgh he was on intimate terms with Liston and was associated with Dr. Knox, the professor of anatomy, in the position of demonstrator. In Mr. Lightfoot has passed away the last man who had a living connexion with those who figure in the history of the great crime that brought about a change of the law that forbade the unclaimed dead to be carried to the dissecting-room. He was an able anatomist and in Lonsdale's 'Life of Dr. Knox' it is stated that the latter used words to this effect: 'There is nothing in the way of anatomical dissection that eyes can see which Lightfoot cannot see, nothing to be done which Lightfoot cannot do.' Mr. Lightfoot soon acquired a large and high-class practice. He was an able and successful operator and gained a reputation as

an ophthalmic surgeon. He enjoyed the confidence of his professional brethren and his opinion was frequently in requisition as a consultant, not only in Newcastle but also in the northern counties of England. When in the zenith of his reputation he was invited to allow himself to be associated with the Newcastle Infirmary on the surgical staff, he respectfully declined the honour and gave as his reason that his time was so fully occupied that he would not be able to do justice to the appointment and had no desire to be simply an ornamental official. He was a courteous and Christian gentleman, the trusted friend and medical adviser of many families for more than half a century, and distinguished for his consideration, attention, and prudence."

JOHN WILLIAM BILLING STEGGALL, M.R.C.S. ENG., L.S.A.

Mr. J. W. B. Steggall, whose somewhat unexpected death took place on August 14th, at the house to which he took his young bride in 1854 and in which he had resided continuously ever since, was the eldest son of the late John Steggall, M.D. He was born in 1827 and in the year 1843 commenced his professional studies at Charing Cross Hospital. He passed through the course with distinction, receiving the gold medal of the Society of Apothecaries and qualifying as L.S.A. in 1848 and M.R.C.S. Eng. in 1849. He then held the appointment of house surgeon at Charing Cross Hospital for over three years, the duration of these posts not being limited 60 years ago as they are now, after which he was assistant to his father for some time, both in his more strictly professional practice and in the tuition which, in accordance with the custom of the day, was often given by physicians to students who in some cases resided, as well as studied, at a medical man's house. In this manner the late Mr. Steggall had, amongst other well-known pupils, Albert Smith under his charge, and the humorous sketches that appeared in the early pages of *Punch* under the heading of "The Medical Student" owed much to the writer's experience as a medical pupil in Dr. Steggall's house. Some of the names attached to the anecdotes were, indeed, but thinly disguised; those in the secret, however, admitted the accuracy of the sketches.

Mr. Steggall later carried on a large practice in Bloomsbury, though the modern changes in the residential character of the neighbourhood materially affected it. He never actually retired from practice, and even on the day of his death some old patients sent to ask his attendance or advice, but alterations in all the conditions of medical practice were bound to affect him, as they do all senior practitioners. In his profession he was inclined to be conservative, but his powers of diagnosis were admittedly high and his skill in dealing with such surgical work as falls to the lot of a general practitioner was undoubtedly great. His rather old-fashioned manner and his constant urbanity, together with the interest that an admirably trained and exact memory lent to his conversation, were valued by a large circle of friends.

Mr. Steggall was famous for his love for London. He did not sleep away from his house more than, on the average, once a year during his long occupation of it. One of his chief delights was to walk through the London streets, studying their new and old architectural features, or examining the books and engravings at the well-known dealers. His knowledge of architecture was extraordinarily minute and he was generally much better informed as to the principal English and continental buildings which he had never seen than those who had had the advantage of visiting the cathedral cities or the great centres of European history. His collection of engravings and drawings was large and detailed, and included many architectural designs from his own hand. His appreciation of this particular branch of art was very keen, and his criticisms were always marked by excellent taste. In addition to his knowledge of architecture and engraving he was learned in general classical and late Latin literature, and possessed a wide knowledge of Roman numismatics. His wife died in 1893, but of his family, numbering 12, the ten who survived their infancy are still alive. The eldest son is one of the two professors of mathematics at the University of St. Andrews, and the seventh son has followed his father's footsteps, having taken the medical course at Charing Cross Hospital and qualified as M.R.C.S. Eng., L.R.C.P. Lond. His second daughter was his constant companion for the last 13 years.

JOHN CAMERON, M.D., C.M. EDIN.

WE regret to record the death of Dr. John Cameron, medical superintendent of the Argyll and Bute Asylum at Lochgilphead, which occurred on Sept. 5th at Edinburgh, whither he had retired three months ago with a serious disease which gave no hope of his recovery. He was born at Killin 67 years ago and was educated at Edinburgh University, where he took his M.B., C.M. in 1872 and proceeded to the Doctorate five years later. Subsequently to his qualification he became a house surgeon at Glasgow Royal Infirmary and then assistant to the professor of the practice of medicine in his own university and assistant physician at the Edinburgh Royal Infirmary. He relinquished a career in internal medicine which promised so well to take a medical officership in the Crichton Royal Institution, Dumfries, and in 1874 succeeded to the superintendentship which he held until his death. He was a keen officer of the Argyll and Bute Artillery (Volunteers) and after some 15 years' service retired with the rank of lieutenant-colonel.

JAMES BRIERLEY HUGHES, M.R.C.S. ENG., L.S.A.

GREAT regret has been felt at Macclesfield at the death of Mr. James Brierley Hughes who was an old practitioner and prominent citizen of that town. He was attacked with serious heart trouble in December last but made a great improvement until a serious relapse occurred in August which resulted in his death on August 25th, when he was in his sixty-fifth year. He was the son of the Rev. John Hughes, rector of St. Peter's, Congleton, and was apprenticed to Dr. Bulloch of Congleton after being educated at the Macclesfield Grammar School. He came up to St. Bartholomew's for his hospital training, obtaining his qualifications in 1866. In the following year he returned to Macclesfield, where he was appointed medical officer of the workhouse, district medical officer, and public vaccinator, all of which offices he held until his death. He was an active councillor of the borough for the last five years, being a member of the water, library, health, and other committees. He was a keen militiaman, having joined the 4th Battalion of the Cheshire Regiment (Macclesfield Militia) as surgeon-lieutenant in 1873 and held the rank of Surgeon-Lieutenant-Colonel at its disbandment last year. Mr. Hughes leaves a widow, who is the daughter of Mr. A. E. Sears of Blackheath, three sons, and one daughter. Two of his sons, Dr. J. B. Hughes and Mr. Guy Hughes, are in medical practice in Macclesfield. The funeral, which by his own request was very quiet, took place at Congleton on August 29th. We take the following appreciation of the deceased gentleman from a local contemporary. "Bluff and outspoken, and always uncompromising in his detestation of sham and mere empty parade, Dr. Hughes was not given to 'coddling' his patients, or anybody else with whom he came into contact, but he nevertheless earned their respect and complete confidence. He possessed an inexhaustible store of good humour and had qualities of heart which, though rarely displayed openly, will cause his death to come to many with the force of a personal loss."

FREDERICK JOHN MASON, M.R.C.S. ENG., L.M., L.S.A.

AN old and well-known surgeon of Lincoln, Mr. F. J. Mason, passed away on August 25th at his residence, 6, Sibthorp-street. He had reached the age of 71 years, of which 43 had been spent in practice in the city. He was the eldest son of the late Mr. John Mason of Wisbech and was educated at University College, London. He obtained his diplomas in 1858, subsequently settling in Lincoln. He had not enjoyed good health since he suffered from a paralytic seizure 14 years ago, but his end came somewhat suddenly after a few days' illness. In 1869 he married the second daughter of the late John Stevenson of Barton-on-Humber who survives him with one daughter. Mr. Mason was a keen and successful surgeon and gained a considerable local reputation by his skill in the treatment of fractures in which he had always been interested. He enjoyed a large private practice. The funeral took place at Canwick-road Cemetery, Lincoln, two days after his death, and the tributes included a beautiful

wreath from the Lincoln Medical Society, of which he had long been a member.

JOHN TAYLOR, M.R.C.S. ENG., L.S.A.

BY the death of Mr. John Taylor at Earls Colne on Sept. 4th East Anglia loses one of the oldest members of the medical profession in the district. Mr. Taylor was in his ninetieth year, having been born in 1819. His father, Mr. John Polley Taylor, commenced to practise in Earls Colne in 1812. Mr. John Taylor the younger entered as a student at St. George's Hospital and subsequently became a pupil of Mr. Isaac Baker Brown. He qualified M.R.C.S. in 1842, L.S.A. in 1845, and joined his father in practice at Earls Colne, and on the decease of his father succeeded to the entire practice in 1856. He was medical officer and public vaccinator of the third district of the Halstead union for 50 years and also many years medical officer and public vaccinator of the tenth district of the Lexden and Winstree union. For some years he was President of the Colchester Medical Society, of which he was a member for 62 years, and only last month he again had the honour offered him. He was greatly interested in the Essex and Herts Medical Benevolent Society, being a trustee for Essex for many years. He was of a most hospitable and genial nature and was a keen sportsman, being preatly interested in fox hunting and cricket. He took a geen interest in all matters appertaining to his profession knd to the last kept himself as far abreast as possible of advancements in medicine. The funeral took place on Sept. 8th at Earls Colne and the respect in which he was held was shown by the large number of medical men and friends of all classes who attended from the whole country side.

WALTER BROWN, M.B. ABERD., L.R.C.P. LOND., M.R.C.S. ENG.,

PHYSICIAN TO THE GLOUCESTER GENERAL INFIRMARY.

THE death occurred on Sept. 12th, at his residence, Carlton House, Gloucester, of Dr. Walter Brown. The deceased gentleman graduated M.B. of the University of Aberdeen in 1879, having taken the qualifications of M.R.C.S. Eng. and L.R.C.P. Lond. in 1874 and 1875 respectively. After holding resident appointments at the Victoria Hospital for Children, Chelsea, and the Royal United Hospital, Bath, Dr. Brown was appointed house surgeon at the Gloucester General Infirmary. On resigning the latter post he commenced practice at Gloucester and was subseqently elected assistant physician, and later physician to the General Infirmary. Dr. Brown was a prominent Freemason, he was extremely popular in Gloucester, and much sympathy is felt there for his widow and young family.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Professor J. G. Hjalmar Kinberg of Stockholm, well known both as a medical practitioner and as a zoologist. He was 89 years of age.—Prince Ivan R. Tarkhanoff, who was for many years professor of physiology in the Military Medical Academy, St. Petersburg. Since 1895, when he resigned the chair, he has been actively engaged lecturing as *privat-docent* on biology and physiology and in publishing papers and periodicals dealing with medicine and science in a popular way. Prince Tarkhanoff was born at Tiflis in 1846 and studied medicine in St. Petersburg, Strasburg, and Paris.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Ulrich Friedemann has been recognised as *privat-docent* of Bacteriology.—*Bologna:* Dr. Casimiro Doniselli has been recognised as *privat-docent* of Experimental Physiology, and Dr. Arturo Beretta as *privat-docent* of Odontology.—*Chicago (North-Western Medical School):* Dr. William A. Evans, of the Chicago College of Physicians and Surgeons, has been appointed to the Chair of Hygiene; Dr. Prentiss has been appointed Assistant Professor of Anatomy; Dr. W. H. Buhlig, Assistant Professor of Medicine; Dr. R. T. Gilmore, Assistant Professor of Gynæcology; and Dr. Joseph Brennemann, Assistant Professor of Children's Diseases.—*Florence:* Dr. G. Greco, Professor of Surgery, has resigned his chair.—*New Orleans:* Dr. G. Mann has been appointed Professor of Physiology.—*New York (Cornell University):* Dr. S. Simpson of Edinburgh has been appointed to the chair of Physiology.—*Pisa:* Dr. Francesco Niosi has been recognised as *privat-docent* of External Pathology.—*Rio de Janeiro:* Dr. Miguel da Silva Pereira has been promoted to the chair of Internal Pathology.—*Rome:* Dr. Marco Almagià has been recognised as *privat-docent* of General Pathology; Dr. Giambatista Mariotti Bianchi as *privat-docent* of Pathological Anatomy; Dr. Nicola Leota as *privat-docent* of External Pathology; and Dr. Attilio Ascarelli as *privat-docent* of Forensic Medicine.—*Turin:* Dr. Eugenio Delfino has been recognised as *privat-docent* of External Pathology and Dr. Vittorio Marzocchi as *privat-docent* of Parasitology.

ST. GEORGE'S HOSPITAL: A PROPOSED HOSPITAL CLUB.—On Oct. 1st next, at 2.30 P.M., a meeting of past and present St. George's Hospital students will be held in the Medical School with the object of promoting a St. George's Hospital Club. The club will include the present Amalgamation Club, the Graphic Society, and the Hunterian Society; whilst the *St. George's Hospital Gazette* will become the official organ of the new club and will in future be forwarded to members. The objects of the St. George's Club will be to extend and cement the associations between all St. George's men, past and present, and to keep them informed of news concerning the hospital and school. Dr. T. T. Whipham, consulting physician to the hospital, who will preside at the annual dinner of the Medical School at the Hotel Métropole in the evening, has kindly consented to become the first president of the club. It is hoped that all St. George's men will do their best to be present at the inaugural meeting. Those who may not have received an invitation by post are requested to send their present address to the honorary secretaries of the club, St. George's Hospital, London, S.W. All life members of the Amalgamation Club will become, *ipso facto*, life members of the new club.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Sept. 3rd, Mr. R. F. Jowers, the new President, being in the chair. The President showed a case of Fracture of the Neck of the Humerus in which the lower fragment was pulled upwards and forwards so as to overlap the upper fragment. The fracture was exposed between the deltoid and pectoralis and the bones secured in position by two staples, one on each side of the biceps tendon. The result was excellent. Dr. Walter Broadbent showed a man with Aneurysm of the Third Part of the Arch of the Aorta. He had a paralysed left vocal cord, unequal pupils, smaller left pulse, tracheal tugging, pulsation, dulness, and loud second sound in the first and second left spaces, also a harsh systolic murmur loudest over this area and less air entry in the upper lobe of the left lung. He had been under his care for 18 months. Mr. A. J. Martineau showed a man, 50 years of age, with a Perforating Ulcer of the Palate, said to have been started by an injury from a pipe stem. There was no history of syphilis, but improvement had taken place under iodide and inunctions of mercury. He also showed a woman, aged 32 years, who had suffered from Aphonia for several months which appeared to be functional. As she had a goitre the right lobe was removed under chloroform and the voice returned the same evening. The goitre appeared to exert no pressure on the trachea. Mr. G. Morgan showed a large Sarcomatous Gland removed from the groin of a boy aged two years. Dr. C. H. Benham showed an Ovary of the size of a bantam's egg, black from effused blood and gangrene, due to a twisted pedicle, removed for him from a child, aged nine years, by Mr. Jowers. The child had had six attacks of acute pain in the right lower abdomen with vomiting in the last two years, and when seen by Dr. Benham had tenderness at McBurney's point and the blood showed a leucocytosis of 12,500, mainly polynuclear. Dr. Benham also read a paper on the Treatment of a Common Cold. He first dealt with prophylaxis, recommending isolation of the first case in a house; then with treatment of acute colds in the early stages with quinine or salicylates, and of chronic colds with tonics and nasal douches. He went fully into the opsonic and vaccine treatment of

colds which, he thought, had a great future. Dr. Broadbent read a note on Homburg and Some Other Spas. He described the waters and baths which gave the best results with chronic dyspeptics. Compared with England the finer climate, better management, and consequent greater cheerfulness of foreign spas gave them a great advantage.

UNIVERSITY COLLEGE, BRISTOL.—The fête recently held at the Zoological Gardens, Clifton, for the purpose of raising funds to clear off the debt on the recreation ground of the University College Union was very successful. The gross receipts were £1993, and after paying expenses the sum of £896 will be handed to the University College Union.

MANCHESTER ROYAL INFIRMARY.—In view of the closing of the old Manchester Royal Infirmary, which will take place shortly, it is proposed to hold a gathering of past and present residents who wish to visit the old building again. A dinner will be held on Thursday, Oct. 15th, and the old and new hospitals will be open for inspection on Oct. 15th and 16th. Any former resident officer or resident apprentice who has not received notice of the dinner is requested to communicate with the resident medical officer of the infirmary, who is acting as secretary for the gathering.

THE PIROGOFF SOCIETY AND POLITICAL PROPAGANDA.—The *Novoe Vremya* reports the arrest of D. B. Zhbanko, secretary to the Pirogoff Society, at whose residence 1500 pamphlets were found entitled, "What you must know to Combat Contagious Diseases." Only the first few pages were devoted to the subject of the title, the rest were filled with anti-Government propaganda. The executive offices and library of the Pirogoff Society were searched at the same time, where 600 of the pamphlets were found. The society's journals were removed.

FAILURE OF THE CHAMPAGNE VINTAGE.—It is reported from the chief departments of the champagne country that the vintage of 1908 simply does not exist, so disastrous have been the ravages of mildew. This blow is the more unfortunate just now inasmuch as there is a bitter feeling amongst the growers in regard to the unchecked manufacture of wines purporting to be champagne but which is made from grapes grown outside the real champagne district. They ask for the same protection at the hands of the State as is accorded to the producers of Cognac brandy which is defined to be the product of the distillation of wines produced in the Charentes. It is feared that if a practice of substitution is continued there will be a general rising amongst those engaged in the champagne industry who realise that their livelihood is menaced.

THE NEW WATER CHARGES IN LONDON.—A movement is on foot in the City of London to ask the Lord Mayor to summon a meeting of ratepayers to protest at the Guildhall against the new charges of the Metropolitan Water Board. The Lord Mayor has expressed his willingness to preside at such a meeting if a sufficiently large requisition is presented to him, and during the next few weeks it is expected that a considerable number of prominent ratepayers will give the chief magistrate the mandate he seeks. The dissatisfaction aroused in the City by the new water rate is very great. It is understood that at the projected meeting a demand will be made for such an amendment of the Act of 1907 as will lessen the burden imposed upon City ratepayers, the adoption of supply by meter being suggested, no other means appearing feasible.

TUBERCULOSIS IN NORWAY.—The annual report of the sanatorium for tuberculous patients at Reknaes on the west coast of Norway shows that during the year ending Dec. 31st, 1907, there were 269 cases admitted and 265 discharged. The average period of residence was 88 days, the maximum being 151 days. Of the 269 cases admitted 28 per cent. were in the first, 50 per cent. in the second, and 22 per cent. in the third stage of the disease, while among the 265 cases discharged there were 80 in the first, 125 in the second, and 48 in the third stage. Of the 80 cases in the first stage and of the 125 cases in the second stage 54 per cent. and 10 per cent. respectively were discharged "recovered," while of the 48 cases in the third stage 58 per cent. were discharged improved. There were two deaths, one of which was due to nephritis with uræmia and the other to perforated duodenal ulcer with general peritonitis. Calmette's ophthalmic reaction and Pirquet's cutaneous reaction were tried in many instances. That these reactions may be of value in doubtful cases is highly probable, but owing to the great variability of the results sufficient data have not yet been collected to warrant publication. The average cost per diem for a patient was 1*s.* 11*d.* (kr. 1·70), of which 1*s.* 1½*d.* (kr. 0·99) were spent on food. The average temperature for the year at Reknaes was 5·9° C., with a maximum of 24·3° and a minimum of −11·8° C.

PONTYPRIDD AND DISTRICT COTTAGE HOSPITAL.—Over £1500 have been already received towards the building fund of the proposed "Pontypridd and District Cottage Hospital."

THE VACCINATION ACT IN EAST DEVON.—The question of the fees paid to public vaccinators has been engaging the attention of the boards of guardians in East Devon, and in some cases considerable reductions have been proposed. At Axminster recently the public vaccinators all resigned their appointments in consequence of the reduced fees which were offered. At the last meeting of the Honiton board of guardians a letter was read from the Local Government Board stating that the guardians must offer such fees as would attract qualified medical men for the positions. The guardians apparently realise that the local medical men are determined only to accept the scale of fees at present in force, and a member of the board gave notice that at the next meeting he would move that the guardians revert to the old conditions.

THE KEPLER SOCIETY.—A Kepler Society (Keplerbund) has been founded recently under the auspices of certain German men of science "to counteract the advances which Monism has made and which appear to be of an atheistic tendency." An appeal to the public has been made and the society has now about 3000 members. The object of the society is to instruct the lay public in scientific truths and to promote its interest in the study of nature entirely apart from religious views. About 140 men of science have offered their services as public lecturers and scientific contributors. Six popular treatises have already been issued. A committee of 29 members has charge of the organisation. Dr. Desmert, D.Ph., of Godesberg, is scientific director. Members pay an annual subscription of at least 5 marks.

THE HEALTH OF SOUTH DEVON IN 1907: A RECORD YEAR.—Mr. W. Harvey has just presented to the Devon county council his summary of the reports of the medical officers of health of South Devon for 1907. The report deals with the rural and urban sanitary districts in South Devon and shows that the death-rate for the year was 14·3 per 1000. Pulmonary tuberculosis for the first time had caused less than 300 deaths—viz., 294. The death-rate of enteric fever was 0·05, the lowest on record. The infant mortality was 93 per 1000 births, the lowest recorded. 313 deaths were due to cancer; this is the first occasion on which the deaths from cancer exceeded those due to pulmonary tuberculosis. 945 cases of infectious disease were notified in 1907, compared with 1144 in 1906. The birth-rate for 1907 was 20·3, the lowest on record.

THIRD INTERNATIONAL CONGRESS FOR THE CARE OF THE INSANE.—This Congress will be held at Vienna from Oct. 7th to 11th, under the patronage of the Austrian Government and of a distinguished council. The proceedings will embrace all questions relating to the insane, not only of medical interest but also of legal, technical, administrative, and pædagogic interest, as will have been seen by a list of some who propose to take part which has already been published. The Congress aims at putting us in possession of complete information upon the present position of lunacy administration in the different countries; the care of the feeble-minded, the nursing of lunatics, the arrangements for their restraint, the care of the insane in armies, and all legislative aspects of these questions will be dealt with in different communications, after which a report will be read upon the proposal of Dr. Frank of Zürich to establish an international institute for the study, prevention, and treatment of mental diseases. Excursions to inspect noteworthy places will be made and in particular to the hospital for

mental and nervous diseases in Lower Austria, "am Steinhof," which is reputed to be the largest public establishment of its sort in Europe, to the Mauer-Öhling asylum, and to the Moravian establishments. During the Congress a bust of Krafft-Ebing will be unveiled in the university. The full programme of proceedings will be published shortly. The President of the Congress is Hofrat Professor Dr. Obersteiner, 1, Billrothstrasse, 69, Wien XIX/1, and the general secretary is Professor Dr. Pilcz, Wien XIII/12.

BOOKS, ETC., RECEIVED.

ASH AND CO., LIMITED, 2, Exchange Parade, Southwark-street, and Henry-street, Tooley-street, London, S.E.

A Handbook of Sanitary Law. For the Use of Candidates for Public Health Qualifications. By B. Burnett Ham, D.P.H. Camb., M.D., M.R.C.S., L.R.C.P., Commissioner of Public Health for Queensland. Fifth edition. Price 2s. 6d. net.

LAURIE, T. WERNER, Clifford's Inn, Fleet-street, London, E.C.

The Cathedrals and Chnrches of Norway, Sweden, and Denmark. By T. Francis Bumpus, Author of "The Cathedrals of England and Wales," &c. Price 16s. net.

LIVINGSTONE, E. AND S., 15, Teviot-place, Edinburgh.

Husband's Practice of Medicine. Designed for the Use of Students and Practitioners. Sixth edition, rewritten and enlarged. By Robert F. C. Leith, M.A., M.Sc., M.B., C.M., F.R.C.P. Ed., Professor of Pathology and Bacteriology, Birmingham, and Robert A. Fleming, M.A., M.D., F.R.C.P. Ed., Lecturer on the Principles and Practice of Medicine, School of Medicine of the Royal Colleges, Edinburgh; Assistant Physician, Royal Infirmary, Edinburgh. Price 12s. net.

MURRAY, JOHN, 50A, Albemarle-street, London, W.

Insectivorous Plants. By Charles Darwin, M.A., F.R.S. Revised by Francis Darwin. Price 2s. 6d. net.

PUTNAM'S SONS (G. P.), New York and London.

The Muscles of the Eye. By Lucien Howe, M.A., M.D., Professor of Ophthalmology, University of Buffalo, Member of the Royal College of Surgeons of England. In Two Volumes. Vol. II., Pathology and Treatment. Price 16s. net.

REID, ANDREW, AND COMPANY, LIMITED, Newcastle-upon-Tyne.

University of Durham College of Medicine, Newcastle-upon-Tyne. Calendar for the Year 1908–1909. Price not stated.

THACKER, SPINK, AND CO., Government-place, Calcutta. (THACKER, W., AND CO., 2, Creed-lane, London, E.C.)

Insanity in India. Its Symptoms and Diagnosis, with Reference to the Relation of Crime and Insanity. By G. F. W. Ewens, M.D., Dip. Pub. Health, Major, Indian Medical Service; Superintendent, Punjab Lunatic Asylum, Lahore. Price 12s. net.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.)

A Synopsis of Surgery. By Ernest W. Hey Groves, M.S., M.D., B.Sc. Lond., F.R.C.S. Eng., Assistant Surgeon to the Bristol General Hospital; Surgeon to the Cossham Hospital; Senior Demonstrator of Anatomy at the University College, Bristol. Price 7s. 6d. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BENSON, C. T. V., M.R.C.S., L.R.C.P. Lond., has been appointed to the Throat Department and to the Children's Surgical Department at St. Thomas's Hospital.

CORBETT, C. D. H., B.A. Oxon., M.R.C.S., L.R.C.P. Lond., has been appointed to the Throat Department and to the Children's Medical Department at St. Thomas's Hospital.

HANCOCK, GEORGE CHARLES, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. (Eng. Conj.), has been appointed Assistant Inspector of Foods on the Medical Staff of the Local Government Board.

HODGSON, STANLEY, M.D., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed District Medical Officer to the Salford Union and Divisional Police Surgeon to the Salford Police.

HUGGINS, G. M., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to Block 8 at St. Thomas's Hospital.

LEIGH, JOHN DICKINSON, M.D. Edin., F.R.C.S. Edin., D.P.H., has been appointed Medical Inspector of Schools by the Durham County Council.

MCSHEEHY, O. W., M.R.C.S., L.R.C.P. Lond., has been appointed to the Skin Department at St. Thomas's Hospital.

MONTESOLE, M. H. E. R., M.R.C.S., L.R.C.P. Lond., has been appointed Senior Obstetric House Physician at St. Thomas's Hospital.

MORTON, EDWIN, M.D. Edin., has been appointed Medical Superintendent and Adviser to the Education Committee of the Oxfordshire County Council.

NEILD, F. M., M.B., B.S. Lond., has been appointed Junior Obstetric House Physician at St. Thomas's Hospital.

PRIDHAM, G. H., M.R.C.S., L.R.C.P. Lond., has been appointed to the Children's Medical Department at St. Thomas's Hospital.

SHORLAND, WALTER EDMUND, L.R.C.P. Lond., M.R.C.S., has been appointed *pro tem.* Medical Officer and Public Vaccinator for the Llandilo (Carmarthenshire) District by the Llandovery Board of Guardians.

WHEELER, J. N., M.R.C.S., L.R.C.P. Lond., has been appointed Ophthalmic House Surgeon at St. Thomas's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80 and notification fees.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer and Resident Surgical Officer for six months. Salary at rate of £80 per annum each, with board, washing, and attendance.

BIRMINGHAM, QUEEN'S HOSPITAL.—House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

BOLTON, COUNTY BOROUGH OF.—Assistant Medical Officer of Health and School Medical Officer. Salary £250 per annum, rising to £300.

BRADFORD, POOR-LAW UNION HOSPITAL AND WORKHOUSE.—Assistant Resident Medical Officer, unmarried. Salary £100, with rations, apartments, and washing.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £120 per annum, with board, residence, and washing.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing. Also House Surgeon. Salary £130 per annum, with apartments, board, and laundry.

BRITISH LYING-IN HOSPITAL, Endell-street, W.C.—Resident Medical Officer. Salary at rate of £50 a year, including board, lodging, and washing.

CAMBERWELL HOUSE ASYLUM, 33, Peckham-road, S.E.—Second Assistant Medical Officer, unmarried. Salary £150, rising to £200, with board, apartments, and laundry.

CANCER HOSPITAL, Fulham-road, London, S.W.—Assistant Anæsthetist. Salary 25 guineas per annum.

CHESTER COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £160 per annum, with board, lodging, and washing.

DENBIGH, DENBIGHSHIRE INFIRMARY.—House Surgeon. Salary £100, with board, residence, and washing.

DREADNOUGHT HOSPITAL, Greenwich.—Two House Physicians and Two House Surgeons for six months. Salary £50 per annum, with board, residence, and washing.

DUDLEY, THE GUEST HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with residence, board, and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Surgeon. Salary at rate of £60 per annum, with board, residence, and washing. Also Clinical Assistants.

EXETER, COUNTY EDUCATION OFFICE.—Medical Officers for Inspection of Children.

FARNINGHAM AND SWANLEY, KENT, HOMES FOR LITTLE BOYS.—Medical Officer, unmarried. Salary £100 a year, with board, residence, and laundry.

GARTCOSH, GLASGOW DISTRICT ASYLUM.—Assistant Medical Officer. Salary commencing at £125, with board and lodging.

GORDON HOSPITAL FOR FISTULA, &C., Vauxhall Bridge-road, S.W.—Anæsthetist.

GRIMSBY AND DISTRICT HOSPITAL.—House Surgeon. Salary £120 per annum, with board, lodging, attendance, and washing.

HAMPSTEAD GENERAL HOSPITAL.—House Physician and House Surgeon, both for six months. Salary at rate of £70 per annum, with board and residence.

HEREFORD, HEREFORDSHIRE GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, apartments, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Salary £25. Also Resident Medical Officer. Salary £200 per annum, with board and residence. Also Assistant Resident Medical Officer. Salary £100 per annum, with board and residence. Also Clinical Assistants for six months. Salary at rate of £100 per annum.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

JERSEY GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer. Salary £120 per annum.

LANCASTER, ROYAL LANCASTER INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

LEAMINGTON, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—Two Resident Medical Officers. Salary for Senior £100, and for Junior £85 per annum, with board, washing, and apartments.

LEICESTER INFIRMARY.—Assistant House Surgeon; also Assistant House Physician, both for six months. Salaries at rate of £60 per annum, with board, lodging, and washing.

LEYSIN, SWITZERLAND, ENGLISH SANATORIUM.—Assistant Medical Officer, unmarried. Salary at rate of £72 per annum for first six months, afterwards at £96, with board and lodging.

LONDON HOSPITAL, Whitechapel, E.—Assistant Surgeon.

MANDALAY MUNICIPALITY.—Health Officer. Salary Rs.800 (£40) per mensem.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Junior Resident Medical Officer. Salary £50 per annum, with board, lodging, &c.

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE.—Assistant Medical Officer. Salary £250 per annum.

NEWCASTLE-UPON-TYNE AND NORTHUMBERLAND SANATORIUM, Barrasford, North Tyne.—Locum Resident Medical Officer, unmarried. Salary £15 a month, with board, residence, and laundry.

NORTH SHIELDS, TYNEMOUTH VICTORIA JUBILEE INFIRMARY.—House Surgeon. Salary £100 per annum, with rooms, board, &c.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with apartments, board, and laundry.

OLDHAM INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

OLDHAM UNION.—Resident Assistant Medical Officer. Salary £130 per annum, with rations, furnished house, washing, and attendance.

OXFORD, RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—Junior House Surgeon, unmarried, for six months. Salary at rate of £40 per annum, with board, &c.

PENDLEBURY, MANCHESTER CHILDREN'S HOSPITAL.—Visiting Physician. Honorarium £100 per annum.

POPLAR AND STEPNEY SICK ASYLUM, Bromley, E.—Third Assistant Medical Officer. Salary £120 per annum, with rations, apartments, and washing.

PRESTWICH COUNTY ASYLUM, Manchester.—Junior Assistant Medical Officer, unmarried. Salary £150, increasing to £250, with board, apartments, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

RAINHILL COUNTY ASYLUM, near Liverpool.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £250, with further increase to £350, with apartments, board, attendance, and washing.

ROCHDALE, COUNTY BOROUGH OF.—Medical Officer of Health. Salary £450, increasing to £550.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Senior House Surgeon. Salary at rate of £100 per annum, with board and residence.

ROYAL NAVY, MEDICAL DEPARTMENT.—Fifteen Commissions.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Clinical Assistants.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £100 per annum, with board and residence.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £70 per annum, with board and apartments.

SOUTHAMPTON FREE EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £60 per annum, with rooms, board, and washing.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

TORQUAY, PARISH OF.—Medical Officer. Salary £100 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, apartments, and attendance.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House Surgeon, unmarried. Salary £100 per annum, with residence and board.

WEST LONDON HOSPITAL AND POST-GRADUATE COLLEGE, Hammersmith-road, W.—Clinical Assistants. Also Casualty Officers for three months.

WINSLEY, NEAR BATH, THREE COUNTIES SANATORIUM FOR CONSUMPTIVES.—Resident Medical Officer, unmarried. Salary £200, rising to £300.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Invergordon, in the county of Ross and Cromarty; at Chatteris, in the county of Cambridge; at Higham Ferrers, in the county of Northampton; at Enniscorthy, in the county of Wexford; and at Rothes, in the county of Elgin.

Births, Marriages, and Deaths.

BIRTHS.

ALFORD.—On Sept. 7th, at Stafford Lodge, Weston-super-Mare, the wife of H. T. Marmaduke Alford, L.R.C.P. Lond., M.R.C.S. Eng., of a son.

FURNIVALL.—On Sept. 12th, at Highfield-terrace, Halifax, the wife of Captain C. H. Furnivall, R.A.M.C., of a son.

MOUNSEY.—On Sept. 13th, at Moorlands, Camberley, the wife of Ridley Ewart Mounsey, M.R.C.S., L.R.C.P., of a daughter.

TAYLOR.—On Sept. 8th, at Eaton Hill, Norwich, the wife of Sidney Johnson Taylor, M.B., M.R.C.S., of a daughter.

MARRIAGES.

PARTRIDGE—VANDERMIN.—On Sept. 12th, at St. George's, Camberwell, Victor Stanley Partridge, L.R.C.P. Lond., M.R.C.S., M. & L.S.A., to Florence Gertrude, second daughter of the late Petrus Vandermin and Mrs. Vandermin.

WARD—STOOP.—On Sept. 12th, at the parish church, Byfleet, Vere Godsalve Ward, M.D., to Janey Corry, second daughter of Fred C. Stoop.

DEATHS.

EUSTACE.—On Sept. 10th, at Bournemouth, Fleet-Surgeon Richard Eustace, M.D., R.N., aged 75 years.

PATON.—On Sept. 10th, Edward Percy Paton, M.D., M.S., F.R.C.S., aged 41 years.

RAY.—On Sept. 10th, at Tunbridge Wells, Charles Ray, M.D., M.R.C.S., aged nearly 96 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

SHAKESPEARE ON SYPHILIS.

To the Editor of THE LANCET.

SIR,—It would be difficult to point to any great author, not himself a physician, in whose works the healing art is referred to more frequently and more respectfully than those of Shakespeare, the sacred writings alone being excepted. Any careful student of the immortal dramatist, who bears, as Hallam says, "the greatest name in all literature," must be struck with the amount of attention paid to subjects of medical interest, scarcely if at all inferior to that which has served as the basis of the ingenious argument, supported by Lord Campbell and others, that this intellectual king of men had devoted seven years of his life to the study of law. Without entering into an argument on this point, it might be interesting to take but a single example of disease referred to in his writings to see what an up-to-date knowledge he possessed on this as on all other subjects.

In *Timon of Athens*, Act. IV., Scene 3, we find a complete list of the secondary effects of venereal virus uttered by the mad misanthropist against Phrynia and Timandra the mistresses of Alcibiades who together visit Timon in the woods near Athens whither he has retreated.

Timon: Consumptions sow
In hollow bones of man; strike their sharp shins,
And mar men's spurring. Crack the lawyer's voice,
That he may never more false title plead,
Nor sound his quillets shrilly; hoar the flamen,
That scolds against the quality of flesh,
And not believes himself: down with the nose,
Down with it flat; take the bridge quite away
Of him, that his particular to foresee,
Smells from the general weal: make curl'd pate ruffians bald;
And let the unscarred braggarts of the war
Derive some pain from you: plague all;
That your activity may defeat and quell
The source of all erection.—There's more gold;
Do you damn others, and let this damn you,
And ditches grave you all!

It has been thought probable that "consumptions in the hollow bones" means disease of the bones of the cranium, which has been called the hollow bone of the body. Diseases of these bones we know to have been terribly frequent in olden time, when the treatment of syphilis was not nearly so effectual as it is now. Painful nodes on the shin bones are, no doubt, meant by the expression, "Strike their sharp shins." The subsequent symptom may be read as we give it, "mar men's spurring," and refer to the victim's inability to use the spurs on horseback, or it may be rendered "mar men's sparring," and taken to mean that they would prevent men from using those kicks on the shin which formed part of the movement of attack and defence in wrestling.

Venereal ulcers of the larynx are next referred to; "crack the lawyer's voice." That hideous disfigurement of chronic syphilis, loss of the nose, is mentioned and even the structure is dealt with "take the bridge quite away." The fearful list of the effects of the virus of syphilis is concluded by impotence and baldness; the last of which is especially remarkable as it was not observed to be a symptom of the complaint until a date shortly before Shakespeare wrote. We learn from Fallopius, upon whose information we may rely, that the loss of hair was not observed to be a symptom of the complaint before 1536, when the disorder had been known for about 40 years—Fernelius being the first to notice it. It is also worth noting that these two symptoms—impotence and loss of the nose, which the dramatist mentions, were omitted by Nicholas Brassa in a work on syphilis, founded almost wholly from his own experience. He jumbles together the primary and secondary manifestations while Shakespeare in this remarkable passage mentions the secondary and tertiary forms of the disease only. That this is from knowledge and not from ignorance seems certain, since in an earlier passage of the same scene he refers to the primary symptoms.

While the discussion of such subjects is allowable in a medical journal one would be rather shocked to find such a passage even from the pen of a great writer in the popular literature of to-day. We must remember, however, that in Shakespeare's time both the novelty and the ravages of this disease attracted to it a larger share of public and private attention than any other disease, except, perhaps, the epidemics which were at that time so frequent and so fatal.

The wide prevalence and the horrible nature of these "rotten diseases of the South" are referred to in Hamlet in the grave digging scene.

Hamlet: How long will a man lie i' the earth ere he rot?
Clown: I'faith, if he be not rotten before he die, (as we have many pocky corses now-a-days, that will scarce hold the laying in,) he will last you some eight year or nine year.

In Wunderlick's "History of Medicine" it is stated that Girtanner had recorded 263 separate treatises which had been written on this disease before the end of the sixteenth century, a fact significant of the anxiety and attention which it excited in the profession.

A little earlier in the scene we find reference to the treatment of syphilis in Shakespeare's time.

Timon: Give them diseases . . . . . .
. . . . . season the slaves
For tubs and baths; bring down rose-cheeked youth
To the tub-fast, and the diet.

The baths referred to were probably sweating baths, which were greatly used in the treatment of this disease. Jasper Torella, an eminent physician and Bishop of Justinia, who flourished in the early part of the sixteenth century, says that the cure of this disease, which he calls pudendagra, "depends, in the first place, upon diet and potions, in the second, upon bathing and local applications, and especially upon the use of the stove or sudatory, the hot-air or sweating bath; and, in the third place, on liniments containing a small proportion of quicksilver." The secretions of the skin were also systematically stimulated by sweating decoctions or sweating drinks, composed chiefly of sassafras and guaiacum—hence Pandarus says:

"Till then I'll sweat, and seek about for eases."

The surgeons of those times adopted a particular diet in the treatment of the "lues," which was known and distinguished *par excellence* as *the* diet; and it is this diet, no doubt, which is referred to by Timon with the affix of the definite article. It seems to have been of a very moderate nature; in fact, its adoption might have been called, by those with a previously healthy appetite, fasting. This may explain the expression "tub-fast." Ambrose Paré orders: "Yet if the patient shall be weak, you may some hours before the unction, give him some gelley, the yolke of an egge or some broath made of meate boiled to pieces, but very sparingly, lest nature, intent upon the concoction of solid meats, or in great quantity, should bee drawn away from that which we intend."

Timon says to Apemantus farther on in the same scene: "I'll beat thee—but I would infect my hands," reminding us that in Shakespeare's time the secondary forms of the disease were erroneously thought to be contagious in the highest degree.

If Shakespeare disgusts the delicacy of the present age by the undisguised manner in which he treats this subject, it must be admitted that he presents it in a form little calculated to delude or mislead. On the contrary, he paints the morbid features of libertinism in all their truthful hideousness, from which a young man might derive the same kind of lesson as that of temperance which the Spartan Fathers endeavoured to teach their children, by presenting to their observation the repulsiveness of drunkenness in the person of their slaves. There is not among the many references to disease in Shakespeare's plays one that gives a better proof of the accurate medical knowledge of that wonderful dramatist.

I am, Sir, yours faithfully,
J. HENRY THOMPSON, M.B., B.Ch. R.U.I.

Croydon, Sept. 14th, 1908.

AN ANCIENT PICTURE.

To the Editor of THE LANCET.

SIR,—The engraving to which your correspondent refers is, I think, from the original picture in possession of the Royal College of Physicians of London. It is painted by Robert Hannah, and was exhibited by him at the Royal Academy in 1848, and purchased by the College in 1869. The portrait of Harvey in the picture was copied by permission of the College from the one by Cornelius Janssen.

This picture was engraved by Henry Lemon in 1848, and copies of it, I believe, are now scarce, owing to the foundering of a cargo boat in which were many copies purchased by American visitors to the International Medical Congress in 1881.

I am, Sir, yours faithfully,
W. FLEMING.

London, S.W., Sept. 8th, 1908.

THE ALSAGER URBAN DISTRICT COUNCIL AND ITS MEDICAL OFFICER.

Dr. Henry Crutchley, medical officer of health of the Alsager District, is having a difference of opinion with his authority. It appears that he has been medical officer of health for 13 years at a salary of £20 per annum, one half of which is paid by the Local Government Board, and that during that time it had never been suggested that he was other than an able and efficient official. But in 1904 a resolution was passed by the council requiring him to attend and read his quarterly reports, which hitherto had been sent in in writing. Upon this Dr. Crutchley explained that he did not consider that personal attendance was necessary for the mere purposes of reading the report, but that he would be pleased to attend any meeting of the council when his advice was desired. Matters seem to have been left upon this reasonable basis until July 13th when a quarterly report was submitted through the clerk to the meeting of the council. On this occasion a resolution was passed that the council would not accept the report unless the medical officer attended "to give it personally." The resolution was forwarded by post to Dr. Crutchley by the clerk to the council, together with instructions that he must personally attend to present the quarterly report, and as the terms of the letter did not, in Dr. Crutchley's view, err on the side of civility it was not answered. On Sept. 8th, as Dr. Crutchley had not replied to the clerk's letter, and as his last report had not been accepted because it had not been verbally delivered, it was decided to advertise the post as vacant. The estimated population of the Alsager district is 2641, and it is perfectly clear to everybody that the quarterly report of the medical officer of such a district could be written in ordinary circumstances on half a sheet of note-paper, and that to require the medical officer to attend to read such a document to the authority, which already had it in its hands, is a ridiculous formality. Dr. Crutchley rightly considered that it would be necessary for him to attend whenever his advice was desired, and we cannot conceive why the Alsager urban district council should demand his presence on other occasions.

EARLY ENGLISH MEDICAL BOOKS.

To the Editor of THE LANCET.

SIR,—A medical work in English, a few years earlier than Boorde's "Breuvary of Health" (1562) mentioned by Mr. W. Kelly, was "The Englishman's Treasure with the True Anatomie of Man's Bodie," by Thomas Vicary. This was first published in 1548, but according to Mr. Sidney Young's "Annals of the Barber Surgeons" no copy of the first edition is now known to be extant. The earliest edition in the library of the British Museum bears date 1577. The popularity of this treatise may be judged from its attaining a ninth edition in 1641. A copy of this edition is in the library of St. Bartholomew's Hospital. Dr. F. J. Furnivall edited a reprint of this book (from the 1577 edition) for the Early English Text Society in 1888 (E. E. T. S., Extra Series, LIII.). Thomas Vicary was Serjeant Surgeon to King Henry VIII. and was five times Master of the Barber Surgeons Company. In the celebrated Holbein picture at Barbers' Hall he is represented receiving the charter from the King. He was also "Resident Surgical Governor" of St. Bartholomew's Hospital. Still earlier than the date of the first edition of Vicary's "Anatomie of the Bodie of Man"—namely, in 1528—there was published by T. Berthelet, at London, an edition of the famous "Regimen Sanitatis Salerni," with commentaries by Arnaldus de Villa Nova. "This boke techyng al people to governe them in helthe, is translated out of the Latyne tonge in to Englishe by T. Paynell." The commentaries only are in English. Further editions of this book were published in 1530, 1535, 1541, 1557, and 1575.

I am, Sir, yours faithfully,
A. L. MORETON.

St. Bartholomew's Hospital, Sept. 9th, 1908.

PS.—With reference to the questions concerning an ancient picture I have in my possession an engraving of the picture to which your correspondent refers. The engraving (by Henry Lemon after Robert Hannah) was published March 25th, 1851, by Lloyd Bros. of 22, Ludgate-hill, and dedicated to John Gibbons, Esq., of Hanover-terrace, Regent's Park, who presented the original picture to his friend, Joseph Hodgson, F.R.S., of Westbourne-terrace. Hodgson (1788–1869), it will be remembered, was a well-known Birmingham surgeon, and was P.R.C.S. in 1864.

PUBLIC HEALTH AND THE F.R.C.S. EDIN. EXAMINATION.

To the Editor of THE LANCET.

SIR,—Can any of your readers inform me as to the scope of public health as an optional subject for the F.R.C.S. Edin., also books recommended?

I am, Sir, yours faithfully,
DIPLOMA.

Sept. 14th, 1908.

*** Our correspondent will find the information which he requires at p. 688 of THE LANCET of August 29th, 1908.—ED. L.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions were received between Sept. 3rd and 16th:—British Guiana Branch of the British Medical Association, per K. S. Wise, £5; Llandilo and District Medical Society, per R. Jones, £2 2s.; R. E. Roberts, Cwmfelinfach, Newport, Mon., £1 1s.; and E. O. B. Carbery, Staff-Surgeon R.N., 5s.

A. D.—We have received the verses twice previously and have not felt moved to publish them.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 17th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Sept. 11	29·79	W.	...	94	58	47	48	50	Cloudy
" 12	29·95	N.E.	0·02	106	58	46	46	52	Fine
" 13	30·23	WSW	...	98	61	43	47	51	Fine
" 14	30·24	S.W.	...	117	67	50	52	57	Cloudy
" 15	30·00	S.	...	79	63	51	54	58	Overcast
" 16	30·18	WSW	0·08	97	64	48	50	52	Fine
" 17	30·11	W.	...	80	70	52	57	61	Cloudy

During the week marked copies of the following newspapers have been received:—*Whitby Gazette, Oxford Times, Perthshire Advertiser, Daily News, Yorkshire Herald, Irish Independent, Eastern Morning News, Shields Daily Gazette, Reading Mercury, Liverpool Courier, Surrey Advertiser, Liverpool Daily Post, Birmingham Post, Westminster Gazette, Army and Navy Gazette, Wimbledon Gazette, Daily Telegraph, Pall Mall Gazette, &c.*

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations.
TUESDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.
THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations.
FRIDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin.
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. H. G. Adamson: Clinique (Skin).
TUESDAY.—4 P.M., Dr. J. E. Squire: Clinique (Medical)
WEDNESDAY.—4 P.M., Mr. R. Johnson: Clinique (Surgical).
THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical).
FRIDAY.—4 P.M., Mr. Stuart-Low: Clinique (Ear).

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and .30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Ophthalmic (2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.(, St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (26th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

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